

**THE RELATIONSHIP BETWEEN INSTITUTIONAL INVESTMENT AND FEDERAL
FUNDING FOR RESEARCH**

by
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Abstract

There has been a large disparity in the amount of federal dollars received each year between the top 20% of research universities and the rest of the population of research universities. Moreover, special focus universities such as the historically Black colleges and universities (HBCUs) and high Hispanic enrollment institutions (HHEs) have been really getting left behind. This has led to a lack of diversity in research and a lack of players in the research community contributing to the well-being of society. The purpose of this thesis was to research and discuss the relationship between the amount of funding an institution itself is willing to invest in research and the federal funding that the institution receives. To this end, this thesis utilized data from the National Science Foundation (NSF) called the Higher Education and Research Development (HERD) survey organized by institution, source of funds, and by special focus institutions such as the HBCUs and HHEs. A multiple regression analysis was done on the data to investigate whether there was a difference in the relationship between institutional funding and federal funding for the random sample from the general population of universities and colleges compared with the HBCUs and the HHEs, and during the years 2010 and 2019 which is a span of ten years when special efforts were made by the government to supplement the federal funding given to the HBCUs and HHEs. The multiple regression analysis showed that there was a positive relationship between institutional investment and federal funding and that there was no difference in that relationship between a random sample of universities and colleges from the general population and special focus universities and colleges such as the HBCUs and HHEs, nor was this relationship different in 2010 vs. 2019. Although a cause-and-effect relationship can't be assumed,

this positive relationship means that federal funding increased when institutional funding increased across the different populations, the random sample of universities, HBCUs and HHEs and in year 2010 and year 2019.

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Introduction

In 2019 colleges and universities spent over 44 billion federal dollars for research and development (NSF, 2021). More than eighty percent of federal dollars went to the top 20% of research universities (NSF, 2021). It was easy to see from the data that the allocation of federal funds was not even close to being equitably distributed. Admittedly, there were many factors that determined who received the most in federal funding and there have been several studies that have tried to identify those factors. The focus of this thesis was on the one factor that was the easiest and most obvious to measure and therefore arguably the easiest to control and that was institutional investment. Author James Harrington said, "Measurement is the first step that leads to control and eventually improvement". For this thesis, the data from the National Science Foundation for a random sample of all universities in the general population, historically Black colleges and universities (HBCUs) and high Hispanic enrollment institutions (HHEs) were analyzed using multiple regression analysis. In addition, existing literature was examined on the topic of significant predictors of federal funding including institutional investment.

Review of the Literature

Universities received funding for research from various sources including the federal government, state government, industry, private foundations, just to name a few. It has been shown by Connolly (1996) that what one source decided to give often depended on the level of funding received from other sources. Moreover, in an article in the *Journal of Public Economics* called "Does external funding of academic research crowd out institutional support?", Connolly (1996) asserted that funding from one source

encouraged additional funding from other sources. However, not all studies agreed with this finding. There were studies that said “funding from one of the sources tended to decrease contribution from the others” (Connolly, 1996). Additionally, Connolly (1996) gave a comprehensive argument that a contribution at any given time could have had a multiplier effect and changed the way that other sources gave years down the road. Conversely, decreases in funding from any given source or sources could have also had a multiplier effect that led to the decrease of funds given by other sources for years to come (Connolly, 1996). Connolly asserted that the correlation between internal and external support was positive for current and future levels of funding (Connolly, 1996). This thesis was like the Connolly study in that it also focused on the relationship between institutional investment and federal funding which are examples of internal and external support. However, this thesis differed in that the focus was on more recent data and also looked at that same relationship specifically for HBCUs, HHEs as well as for a random sample of universities and colleges in the general population.

On page 184 in a book called *Studies of Supply and Demand in Higher Education* in a chapter written by Ronald Ehrenberg, Daniel I. Rees, and Dominic Brewer (1993) it stated that the policy to increase federal funding for research in an effort to draw more doctoral students and prevent PhD shortages might have led institutions to reason that they could reduce or redirect their own institutional investments for other purposes instead of supporting doctoral students in research. Ehrenberg, et al. also claimed that institutions may have increased their own funding in response to cuts in federal funding (Ehrenberg, Rees, & Brewer, 1993). “Data from the National Science Foundation (NSF) [showed] that while Federal Funds steadily dropped from 1966 to 1988, institutional funds

increased during that period” (Ehrenberg, Rees, & Brewer, 1993, p. 186). The limitations of the study by Ehrenberg, et al. was that the study focused on graduate students between 1966-1988 and on funds received by graduate students as student aid rather than funds received by the institution for research. However, Ehrenberg, et al. did provide a comprehensive analysis for how universities reacted when there was a change in federal funding. For example, they found that an increase in the number of graduate students supported by external funding tended to decrease the number of students receiving institutional support but that it also depended on whether the change in external support was temporary or permanent (Ehrenberg, Rees, & Brewer, 1993). They stated that temporary increases in federal support didn’t have a big effect on the amount of institutional funds supporting graduate students, but when the increases were perceived to be permanent then institutions reasoned that they could afford to increase their support for graduate students which therefore created a positive correlation between institutional and federal funding (Ehrenberg, Rees, & Brewer, 1993). In this case the authors admitted that they may have overstated the negative correlation between institutional funding and federal funding because funds that a university may have saved during a year of increased federal funding may have led to subsequent increases in internal investment in the following year(s) (Ehrenberg, Rees, & Brewer, 1993). The Ehrenberg study also made a useful observation that institutional support often was related to the institution’s perception of its own wealth level (Ehrenberg, Rees, & Brewer, 1993). If an institution perceived that its own wealth level was increasing as a result of consistent funding by external sources over the years, it may have logically followed that it would increase its institutional investment in research in response (Ehrenberg, Rees, & Brewer, 1993).

Conversely, if the institution perceived that its wealth level was decreasing as a result of constant cuts in external funding, it might have held back institutional funding for research (Ehrenberg, Rees, & Brewer, 1993). This thesis differed from the Ehrenberg study in that the focus of this thesis was to look for what implications institutional funding, HBCU status, HHE status, and year 2010 and year 2019 had upon federal funding.

The Ellyson and Krueger (1980) study used multiple regression and simple correlation to test the relationships between institutional commitments and federal funding, and the relationship between federal funding and other institutional characteristics such as the amount of doctor's, master's, professional and bachelor's degrees awarded. The Ellyson study showed that based on the data for a random sample of 60 out of 200 top research institutions from fiscal year 1975 that there was a strong positive correlation between doctorate degrees awarded and federal funding especially at private universities, and a "moderately strong positive correlation between the amounts of internal research funds [invested] and federal research funding [received]" especially at public universities (Ellyson & Krueger, 1980, p. 135). In fact, it seemed from the Ellyson study that private institutions received more federal funds than public institutions, a topic not addressed in this thesis. The analysis done for this thesis differed from the Ellyson study in that it extended beyond the top 200 research institutions to include research institutions at the bottom of the research funding pool and without respect to public or private control. Moreover more recent data from 2010 and 2019 was used for this thesis.

Muffo and Coccari (1982) did a study to "determine which variables [correlated] highly with success in obtaining external funding" (Muffo & Coccari, 1982, p. 74). They found from their study of "data gathered in 1979 from a sample of member institutions of

the American Association of State Colleges and Universities (AASCU)” that “success at obtaining grants [was] significantly correlated with factors such as past success in getting federal grants, emphasis on doctoral study, size of student body and faculty, urban environment, existence of an internal grants program, [having] a grants administration office, and an emphasis on research and publication for promotion and tenure purposes” (Muffo & Coccari, 1982, p. 79). They also found that among all of the independent variables in the multiple regression that the availability of internal grants “became the best predictor of funding success” (Muffo & Coccari, 1982, p. 74). This thesis was similar to the Muffo & Coccari study in that it further looked at the relationship between institutional funding and federal funding. This thesis differed from the Muffo & Coccari study in that it was inclusive of both public and private universities with varying degrees of success at getting federal funding. Another difference was that the relationship between federal funding and institutional funding for special focus institutions such as HBCUs and HHEs as well as for a random sample of all universities in the general population of universities and colleges and any change that may have occurred in that correlation in a ten-year period by considering Fiscal Year 2010 and Fiscal Year 2019 was explored for this thesis.

In a research article called “The Domino Effects of Federal Research Funding” by Lanahan, Graddy-Reed, Feldman (2016), the relationship being studied was federal funding vs. all other non-federal funding and whether those funding sources were complements or substitutes. It was found that in this study “the evidence suggest[ed] that federal dollars were crowding in investments from other non-federal funders to achieve broad societal objectives” (Lanahan, Graddy-Reed, & Felfman, 2016). However, for the Lanahan et al. study, the variables that were measured were all other non-federal funding

including institutional funding, funding from state and local governments, and funding from industry while federal funding was the independent variable. For this thesis the reverse was being investigated which was to measure federal funding as the dependent variable while institutional investing was the independent variable. In other words, the focus of this thesis was to explore what happened with federal funding when institutional funding increased or decreased.

Problem Statement

Johns Hopkins was the number one research university that received almost \$2.5 billion in federal funding for research in 2019 (NSF, 2021). The number two research university, which was the University of Michigan, received about \$886.9 million that year which was about one third of what Johns Hopkins received in federal funding that same year (NSF, 2021). Yet Johns Hopkins only invested \$152 million in institutional funds compared with \$608 million in institutional funds provided by the University of Michigan (NSF, 2021). In fact, in looking at research and development (R&D) expenditures for fiscal year 2019, it was found that the top 20% of all the universities who spent more than \$150,000 in R&D received more than 80% of the federal funding (NSF, 2021). It was also true that those same top 20% of universities were investing less than 8% of the total in institutional funding (NSF, 2021). In 2019 the HBCUs received less than 1% of the total amount of federal funds received by the higher education community as a whole, and the HHEs about 6% of the total amount (NSF, 2021). Thus, the HBCU and HHE institutions were grossly underrepresented in the research community, and as was mentioned in the literature section of this thesis, there have been a number of studies that sought to find

out what factors drove the allocation of federal funding for research at colleges and universities.

The objective of this thesis was to find out whether there was a relationship between the outcome of federal funding and institutional investment for the three populations 1) random sample of institutions 2) HBCU or HHE status institutions, and 3) data from 2010 vs. 2019. This objective was important because the findings from this research could inform colleges and universities that there was a relationship between the amount of federal funding they received and the amount they were willing to invest in research at their institution. It also might possibly help to create greater diversity in research which may lead to the chance of getting different players and different perspectives contributing to the increased well-being of society through research.

The specific research questions that were addressed were 1) Was there a statistically significant relationship between the predictors (institutional investing, special focus designation HBCU or HHE, and year) and the outcome variable which was federal funding? If so, was the correlation positive or negative? 2) Was the relationship between institutional funding and federal funding different for special focus universities and colleges such as HBCUs and HHEs than it was for the random sample of universities and colleges in the general population? 3) Was there any difference in the relationship between institutional investment and federal funding in 2010 versus 2019?

Research Methodology

The data that was used to answer these questions was from “an annual census taken by the National Science Foundation (NSF) from institutions that spent at least \$150,000 for research and development (R&D) in a fiscal year” (NSF, 2021). The NSF was a very good and reputable source of data because it had been done consistently by the National Science Foundation since 1972 (Britt, n.d.). Moreover, the National Science Act of 1950 and the America COMPETES Reauthorization Act of 2010 authorized the collection of this information from institutions of higher learning (NSF, 2021). The survey that was used to collect R&D expenditures from Universities by source was administered by ICF who gathered data for the latest HERD data report from November 2019 – June 2020 (NSF, 2021). The questionnaires were distributed to designated personnel on each campus and were submitted through a Web-based data collection system and follow up was done by phone and by email (NSF, 2021). Survey staff carefully reviewed the questionnaires with a focus on missing information (NSF, 2021). Sometimes missing values were estimated based on the previous year (NSF, 2021). There was a 3.3% nonresponse error for FY 2019 (NSF, 2021). The NSF compiled and reported this information on expenditures and organized it by source of funds including state and local governments, businesses, nonprofit organizations like private foundations, all other sources as well as from the federal government and the institutions themselves; this report was called the higher education research and development data also known as HERD data and this information was reported by the NSF via their website (National Science Foundation, 2021). HERD had 647 data points on R&D for the general

population of all universities, 49 data points for the HBCUs and 88 data points for HHEs on downloadable Excel spreadsheets.

The data was stored and manipulated using Microsoft Excel and summarized by using the results of a multiple regression analysis on a random sample of all universities, HBCUs, and HHEs receiving at least \$150,000 a year in funding for research. The random sample of universities and colleges from the general population was created using a random number generator from the internet. The minimum number started with the university that was ranked number one and the maximum number of the university that was ranked number 647 was entered into the random number generator to get a randomly selected number. The randomly selected number corresponded to the rank of the university which was copied along with the corresponding information about the federal funds received and institutional funds invested and pasted onto a newly created spreadsheet called general population. Ninety eight out of 647 were randomly chosen for the year 2019. The same procedure was followed to randomly select 98 out of 741 for the year 2010. The multiple regression showed whether there was a statistically significant relationship between federal funding and the predictors which were institutional funding, population and year. Finally, an F-test was performed using the R squares of the unrestricted model and the restricted model that excluded all of the variables except institutional investment. The F-test was done this way to see if the relationship between institutional funds and federal funds differed across different populations and year-related variables. If the multiple regression model was statistically significant, then it would be appropriate to look at the R^2 value that would show the strength of the relationship between 0 and 1. Zero to .30 indicated a weak correlation, .30-.70 indicated a moderately

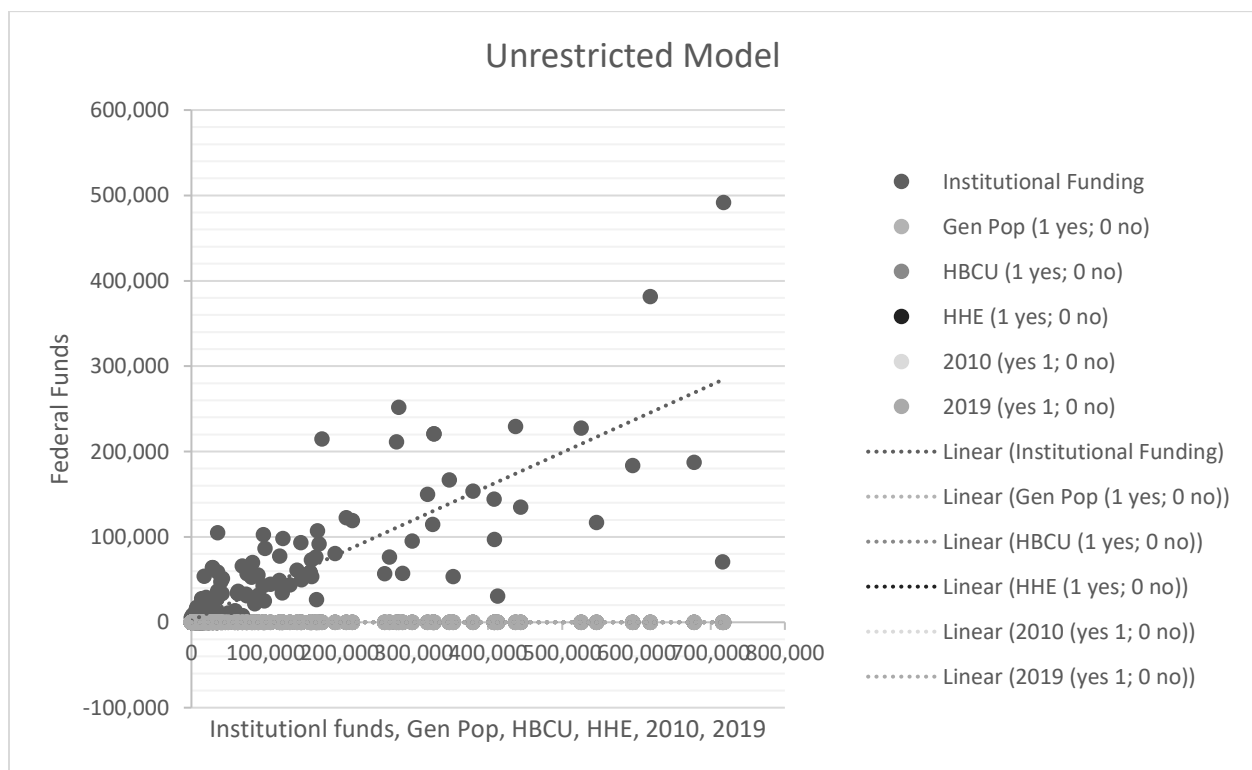
strong correlation, .70 – 1 meant a very strong correlation. Moreover if the multiple regression model had a statistically significant result, then it would be appropriate to look a scatterplot graph created from the data that showed whether the relationship was positive or negative. Positive meant that institutional investment and federal funding rose at the same time. Negative meant that while institutional investment increased federal funding decreased and vice versa.

Data Analysis

The results of the multiple regression with all of the variables which consisted of the dependent variable which was the amount of federal funds received by each institution, and all the independent variables which were institutional investment, HBCUs, HHEs, general population, the year 2010, and the year 2019 were considered. When all of the variables were present in the multiple regression analysis and analyzed together, it was called the unrestricted model. It was shown below in Table 1 that the Significance F in the MS ANOVA table for the unrestricted model was extremely small, 1.1554E-149 which is how MS Excel writes in scientific notation and meant that the decimal point in the number 1.1554 has to be moved to the left 149 times. It indicated that at the 0.05 level that the relationship between all of the predictor variables together (institutional investment, a random sample, special focus, and year) and the outcome variable, which was federal funding, was statistically significant for the unrestricted model. Figure 1 below which was a scatterplot graph that showed a positive relationship between the predictors institutional funding, a random sample from the general population, HBCUs, HHEs, year 2010, and year 2019 and the outcome variable which was federal funding. When the 6 predictors such as institutional funding, general population, HBCUs, HHEs, year 2010,

and year 2019 increased federal funding increased. In fact, the correlation was very strong. Since the unrestricted model was statistically significant, it was appropriate to look at the R square which was 0.7338 in table 1 below. It meant that 73% of the variation in federal funds could be explained by the variation in the six predictors institutional funds, general population, HBCUs, HHEs, year 2010 and year 2019.

Figure 1. Scatterplot graph showing the relationship between institutional funding and federal funding for the unrestricted model in thousands of dollars



From the P-values for the summary output for the unrestricted model in Table 1 below, it appeared that institutional investment might have been the only statistically significant predictor of federal funding among the 6 predictors. An F-test was used to compare the

R square of the unrestricted model in table 1 to the R square of the restricted model with only institutional investing in table 2 to verify whether the difference was statistically significant.

Table 1. Summary output for the unrestricted data

SUMMARY OUTPUT FOR THE UNRESTRICTED MODEL								
Regression Statistics								
Multiple R	0.856633495							
R Square	0.733820945							
Adjusted R Square	0.726726695							
Standard Error	55050.60442							
Observations	437							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	6	3.60931E+12	6.02E+11	297.7419172	1.1554E-149			
Residual	432	1.30921E+12	3.03E+09					
Total	438	4.91852E+12						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	4933.301984	6119.496105	0.806161	0.420593297	-7094.387139	16960.99111	-7094.387139	16960.99111
Institutional Funding	1.822012408	0.056137807	32.45607	6.3784E-118	1.711675205	1.932349612	1.711675205	1.932349612
Gen Pop (1 yes; 0 no)	11441.85916	6859.689154	1.667985	0.096043318	-2040.657575	24924.37589	-2040.657575	24924.37589
HBCU (1 yes; 0 no)	0	0	65535	#NUM!	0	0	0	0
HHE (1 yes; 0 no)	-8067.754145	7244.767849	-1.1136	#NUM!	-22307.1317	6171.623406	-22307.1317	6171.623406
2010 (yes 1; 0 no)	1701.624259	5424.786222	0.313676	0.753918671	-8960.633077	12363.88159	-8960.633077	12363.88159
2019 (yes 1; 0 no)	0	0	65535	#NUM!	0	0	0	0

Table 2. Summary output for the restricted model with institutional funding only.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.852835							
R Square	0.727327							
Adjusted R Square	0.7267							
Standard Error	55525.63							
Observations	437							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	3.58E+12	3.58E+12	1160.317	8.0053E-125			
Residual	435	1.34E+12	3.08E+09					
Total	436	4.92E+12						
Coefficients								
	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	7870.867	2836.889	2.774471	0.005767	2295.153397	13446.58	2295.153	13446.58
Institutional Funding	1.846151	0.054197	34.06343	8E-125	1.739629656	1.952672	1.73963	1.952672

To make this comparison, the equation for the F-test in Figure 2 below was used.

Figure 2. F-test equation for unrestricted model and restricted model with institutional investment only

$$F = \frac{(R_U^2 - R_R^2) / q}{(1 - R_U^2) / (N - k)}$$

The calculation for the comparison of these two models yielded an F-statistic of 2.13. Next was to check this F-statistic against the critical F-value on the F-Distribution Table. The degrees of freedom in the numerator are the number of restrictions in the second regression model or q=5 and the degrees of freedom in the denominator is n-k which is the total number of observations minus k which is the number of predictors in the restricted model or n-k= 436. The critical F-value for alpha 0.05 where 5 and ∞ intersect

was 2.21. Since 2.13 was less than the critical F-value 2.21, that means that the additional variables added nothing significant to the predictive relationship of institution investment to federal funding. In other words, there was nothing unique in the relationship of HBCUs, HHEs or the difference between years that added to the prediction of federal funding. Institutional investing emerges as the only statistically significant predictor of federal funding for all the populations, the random sample, the HBCUs and HHEs, and the year 2010 and the year 2019.

Discussion of Data Results

This thesis was focused on answering the following questions from the problem statement section above:

- 1) Was there a statistically significant relationship between the predictors (institutional investing, special focus designation HBCU or HHE, and year) and the outcome variable which was federal funding? If so, was the correlation positive or negative?
- 2) Was the relationship between institutional funding and federal funding different for special focus universities and colleges such as HBCUs and HHEs than it was for the random sample of universities and colleges in the general population?
- 3) Was there any difference in the relationship between institutional investment and federal funding in 2010 versus 2019?

In response to the questions above institutional investing, HBCU, HHE, and years 2010 and 2019 together (the unrestricted model) had a statistically significant relationship with federal funding. In fact, the unrestricted model showed a strong positive correlation where 73% of the variation in federal funds could be explained by the variation in institutional funding, population, and year. When the unrestricted model was compared to the restricted model with only institutional funds, the result was that HBCU and HHE status and year added nothing to the predictive capability of the model, and that institutional investment was the only predictor among the six that was a statistically significant predictor for federal funds received by the institutions for research. Therefore, the relationship between institutional funds and federal funds is not different for HBCUs and HHEs compared with the general population, nor was that relationship different in year

2010 compared with 2019. In fact, the regression equation could be created to predict the amount of federal funding an institution would receive based on its investment. For example, here was the equation that was put together using the coefficients from the multiple regression of the restricted model with only institutional funds: Federal Funding = $\$7870K + 1.85 * (\text{institutional funds})$. If an institution invested $\$799K$ that institution was expected to have received $\$7,870K + 1.85 * (\$799K) = \$9,348K$. For example, there was an institution, Prairie View A&M University that invested $\$799K$ in institutional funds for research and actually received $\$8,623K$ which is only a difference of $\$725K$. Another example using the same equation, federal funding = $\$7870K + 1.85 * (\text{institutional funds})$ was Fisk University that invested $\$0$ in institutional funding and actually received $\$7,700K$ in federal funding which was very close to the results on the equation for federal funds = $\$7870K + 1.85(0)$ or the intercept which was $\$7,870K$. These calculations show that the model was a good fit for the data.

As was shown in the data above, the relationship between institutional investment and federal funding is no different for HBCUs and HHEs than it is for the random sample of universities and colleges in the general population. These findings did not indicate causality between federal funds received and institutional investment, but it was reasonable to say that federal funds increased when institutional funds increased. Was this good news or bad news for HBCUs and HHEs? It was both good news and bad news. It's good that the relationship is not different because it means that HBCUs and HHEs receive impartial treatment and that there is nothing about being an HBCU or HHE that was different from the general population in terms of this relationship on the one hand. On the other hand, if institutional investment increased while federal funding increased

what was this relationship like for institutions who had a low ceiling for institutional funding? Did federal funding continue to rise for those populations? To approach this question, it was decided that a more granular look at the relationship would be appropriate. Table 3 below is a list of 3 randomly chosen universities from each population. The general population institutions were in yellow. The HBCU institutions were in green, and the HHE institutions were in blue.

Table 3. Random sample of institutions in each population

Institution	Rank by Pop.	2019			2010		
		Ins. Funds	Pred Fed funds	Act. Fed funds	Ins. Funds	Pred Fed funds	Act. Fed funds
U.Hawaii, Manoa	88	\$ 76,455	\$ 149,311	\$167,816	\$ 107	\$ 8,068	\$12,052
Texas Tech U., Health Sciences Center	212	\$ 11,958	\$ 29,992	\$11,345	\$ 5,169	\$ 17,433	\$12,950
U. Pittsburgh, Pittsburgh	15	\$ 187,204	\$ 354,197	\$677,559	\$ 183,558	\$ 347,452	\$594,675
North Carolina Central U.	10	\$ -	\$ 7,870	\$13,503	\$ -	\$ 7,870	\$6,870
Hampton U.	13	\$ 215	\$ 8,268	\$13,390	\$ -	\$ 7,870	\$14,455
Prairie View A&M U.	9	\$ 3,454	\$ 14,260	\$9,346	\$ 799	\$ 9,348	\$8,623
California State University, Long Beach	42	\$ 1,457	\$ 10,565	\$13,579	\$ 16	\$ 7,900	\$12,731
California State University, Bakersfield	56	\$ 2,753	\$ 12,963	\$4,376	\$ 259	\$ 8,349	\$637
Charles R. Drew University	46	\$ 2,622	\$ 12,720	\$10,427	\$ 1,722	\$ 6,150	\$20,430
General Population							
HBCU							
HHE							
Federal Funding = \$7870K + 1.85* (institutional funds)							

It was evident that institutions with low ceilings for institutional funding still received federal funding when zero institutional funding was put forth. North Carolina Central University below received \$6,870K in federal funding in 2010 and \$13,503 in 2019 despite having invested zero dollars in institutional funding in both years. Hampton University below received \$14,455K in 2010 after having invested zero dollars towards research in 2010, and \$13,390K in 2019 after having invested \$215K in 2019. Both these universities just happened to be HBCUs. It was therefore shown that even though institutional funding and federal funding had a positive correlation, institutions were not necessarily penalized for investing zero dollars in research. Moreover, for the most part institutions received

much more in actual funds than in the predicted funds calculated by the equation in the regression model above. It was also true that despite the overall positive correlation between federal funds and institutional support in the example below, the three HHEs had a negative slope in the relationship in 2019. For example, in the Table 4 below, federal funds increased as institutional investment decreased for the HHEs. Table 4 below also shows that in 2019 that schools in the general population in yellow invested the most in institutional funds and they also received the most in federal funds.

Table 4. Random sample of institutions in each population

Institution	Rank by Pop.	2019			2010		
		Ins. Funds	Pred Fed funds	Act. Fed funds	Ins. Funds	Pred Fed funds	Act. Fed funds
U.Hawaii, Manoa	88	\$ 76,455	\$ 149,311	\$167,816	\$ 107	\$ 8,068	\$12,052
Texas Tech U., Health Sciences Center	212	\$ 11,958	\$ 29,992	\$11,345	\$ 5,169	\$ 17,433	\$12,950
U. Pittsburgh, Pittsburgh	15	\$ 187,204	\$ 354,197	\$677,559	\$ 183,558	\$ 347,452	\$594,675
North Carolina Central U.	10	\$ -	\$ 7,870	\$13,503	\$ -	\$ 7,870	\$6,870
Hampton U.	13	\$ 215	\$ 8,268	\$13,390	\$ -	\$ 7,870	\$14,455
Prairie View A&M U.	9	\$ 3,454	\$ 14,260	\$9,346	\$ 799	\$ 9,348	\$8,623
California State University, Long Beach	42	\$ 1,457	\$ 10,565	\$13,579	\$ 16	\$ 7,900	\$12,731
California State University, Bakersfield	56	\$ 2,753	\$ 12,963	\$4,376	\$ 259	\$ 8,349	\$637
Charles R. Drew University	46	\$ 2,622	\$ 12,720	\$10,427	\$ 1,722	\$ 6,150	\$20,430
General Population							
HBCU							
HHE							
Federal Funding = \$7870K + 1.85* (institutional funds)							

The next points that were considered were the attributes of a university such size of the student population, the number of faculty, whether an institution was a high research institution or not, etc... to get a sense for how the top research universities are different from the rest of the research universities in terms of the ability to invest in research rather than measuring what they received. For example, the University of Pittsburg listed above was compared with North Carolina Central University. In 2019 Pittsburg invested \$187,204 in research while North Carolina Central University invested

zero dollars in research (NSF, 2021). The University of Pittsburg invested close to the same amount in 2010 as it did in 2019, and North Carolina Central University also invested \$0 in 2010 as it did in 2019 (NSF 2010). The Carnegie Classification of the two universities was looked at along with each of the institution's websites (Indiana U. School of Education, 2017). The University of Pittsburg was found to be a large, public institution with close to 29,000 students, 5,600 part-and full-time faculty (University of Pittsburgh, 2021). Although its enrollment profile was "majority undergraduate", they listed themselves as a doctoral university with very high research activity which stands to reason that many undergraduates become graduate students at the University of Pittsburgh (Indiana U. School of Education, 2017). Research at the University of Pittsburgh is funded by a mix of federal, local and state and private funders such as NIH, NSF, US Dept. of Ed, Centers for Disease Control and Prevention, the Commonwealth of Pennsylvania and Pittsburg Public Schools, Spencer Foundation, Bill and Melinda Gates Foundation, and the American Cancer Society just to name a few (University of Pittsburg, 2021). That was the profile of an institution that invested lot in research and who also was well funded by the government.

That was the profile for the University of Pittsburgh. North Carolina Central University (NCCU) invested zero dollars in research. NCCU was found to be a large program with a focus on master's colleges and universities with 8,097 students, 607 total instructional employees, 582 were faculty status. According to the NCCU website they were awarded 100 out of the 161 proposals they submitted and were awarded \$34.7 million dollars in FY 2019-2020 which was a figure that is twice the R&D expenditures they reported to NSF for FY 2019 because there are R&D related activities that the NSF

HERD doesn't count causing the totals reported on public literature to be different. On the NCCU website, there is information about the number of graduate students at NCCU, 1,372 master's students, 372 doctoral professional practice students, and 16 doctoral research/scholarship students. The Office of Sponsored Research and Programs at NCCU is a "one-stop shop" that handles both the pre- and post-award process. From the looks of NCCU's website, they are actively engaged in research. The biggest difference between the University of Pittsburgh and North Carolina Central which is an HBCU is size, size of their student body and the number of faculty members, which is a perfectly objective reason that would help explain the differences in institutional investment each institution makes. Since this thesis is about the relationship between institution funds and federal funds received, size is also a factor in federal funding received as well.

Table 5. Negative relationship for HHEs in 2019

Institution	Rank by Pop.	2019		2010		Population
		Ins. Funds	Act. Fed funds	Ins. Funds	Act. Fed funds	
North Carolina Central U.	10	\$ -	\$13,503	\$ -	\$6,870	HBCU
Hampton U.	13	\$ 215	\$13,390	\$ -	\$14,455	HBCU
California State University, Long Beach	42	\$ 1,457	\$13,579	\$ 16	\$12,731	HHE
Charles R. Drew University	46	\$ 2,622	\$10,427	\$ 1,722	\$20,430	HHE
California State University, Bakersfield	56	\$ 2,753	\$4,376	\$ 259	\$637	HHE
Prairie View A&M U.	9	\$ 3,454	\$9,346	\$ 799	\$8,623	HBCU
Texas Tech U., Health Sciences Center	212	\$ 11,958	\$11,345	\$ 5,169	\$12,950	General
U.Hawaii, Manoa	88	\$ 76,455	\$167,816	\$ 107	\$12,052	General
U. Pittsburgh, Pittsburgh	15	\$ 187,204	\$677,559	\$ 183,558	\$594,675	General
General Population						
HBCU						
HHE						
Federal Funding = \$7870K + 1.85* (institutional funds)						

Conclusion

As was stated earlier in the problem statement of this thesis, this thesis was undertaken to explore three things: 1) Was there a statistically significant relationship between the predictors (institutional investing, special focus designation HBCU or HHE, and year) and the outcome variable which was federal funding? If so, was the correlation positive or negative? 2) Did population of special focus universities and colleges like HBCUs and HHEs have a different relationship between investment funding and federal funding than the random sample of universities and colleges in the general population? 3) Was there any difference in the relationship between institutional investment and federal funding in 2010 versus 2019?

The statistical answer to these three queries was that there was a strong positive correlation between federal funds received and institutional funds invested across all populations including HBCUs and HHEs. The amount of federal funds received by an institution tended to increase when institutional investment increased whether the institution had a special focus or not, and that trend has not changed from Fiscal Year 2010 compared with Fiscal Year 2019. The findings of this thesis were that the willingness of institutions to fund their own research was a key variable in predicting the amount of federal funds received, but as was stated earlier, causality between these two variables cannot be proven with this methodology. Further research needs to be undertaken to explore 1) what institutional investment looks like for the various institutions and 2) How are institutional funds generated? The literature cited above spoke about other factors such as incentives like promotion and tenure to encourage the faculty to undertake research and maybe for the schools to increase their emphasis on doctoral

degrees, as mentioned above. Nevertheless, it was clear. The relationship between institutional investing and federal funds received was statistically significant, and again, institutional investment is highly correlated to increases in federal funding and that relationship is the same for a random sample of all universities, HBCUs and HHEs.

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TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
All institutions	-	83,496,348	44,455,265	4,495,452	21,109,703	5,053,576	5,683,937	2,698,415
Johns Hopkins U. ^a	1	2,917,436	2,482,130	7,526	152,043	105,805	166,571	3,361
U. Michigan, Ann Arbor	2	1,675,805	886,851	2,706	608,028	98,997	68,758	10,465
U. California, San Francisco	3	1,595,098	671,047	30,392	394,740	103,463	232,094	163,362
U. Pennsylvania	4	1,506,285	717,359	16,182	491,734	158,554	119,464	2,992
U. Washington, Seattle	5	1,425,601	992,643	27,125	117,341	58,211	194,296	35,985
U. California, San Diego	6	1,353,763	698,925	44,786	301,297	86,865	99,338	122,552
U. California, Los Angeles	7	1,306,376	600,714	70,016	285,010	76,217	197,337	77,082
U. Wisconsin-Madison	8	1,297,331	608,925	94,861	415,634	26,518	115,774	35,619
Harvard U.	9	1,239,736	618,405	980	381,597	48,168	166,590	23,996
Duke U.	10	1,226,517	709,705	498	154,081	236,292	105,775	20,166
Stanford U.	11	1,204,116	738,957	38,011	124,706	136,065	159,040	7,337
U. North Carolina, Chapel Hill	12	1,153,773	720,613	9,455	293,561	44,962	67,773	17,409
Cornell U.	13	1,144,534	525,182	92,698	227,319	56,461	118,002	124,872
U. Maryland ^b	14	1,096,600	696,880	34,241	279,371	30,775	50,561	4,772
U. Pittsburgh, Pittsburgh	15	1,080,951	677,559	9,702	187,204	25,312	67,014	114,160
Yale U.	16	1,072,309	576,776	8,038	318,201	74,583	86,495	8,216
U. Minnesota, Twin Cities	17	1,013,112	494,549	79,587	321,652	50,423	40,928	25,973
Massachusetts Institute of Technology	18	1,009,466	489,345	2,713	116,760	196,810	107,962	95,876
Columbia U. in the City of New York	19	1,003,615	736,536	7,977	74,951	78,227	103,544	2,380
U. Texas M. D. Anderson Cancer Center	20	969,496	176,156	258,019	214,509	156,237	28,010	136,565
Georgia Institute of Technology	21	960,167	716,207	92,591	70,898	66,782	13,392	297
Texas A&M U., College Station and Health Science Center	22	952,156	359,609	190,465	274,537	41,351	59,798	26,396
Pennsylvania State U., University Park and Hershey Medical Center	23	949,679	600,489	51,658	207,208	32,949	56,184	1,191
New York U.	24	934,720	436,850	22,939	229,172	50,280	80,137	115,342
Ohio State U.	25	929,250	497,651	62,752	136,923	157,885	49,679	24,360
U. Florida	26	928,639	387,906	162,626	257,870	36,623	47,629	35,985
U. Southern California	27	909,683	543,607	13,301	189,168	47,241	50,917	65,449
Washington U., Saint Louis	28	887,088	543,508	963	157,727	96,311	87,106	1,473
Northwestern U.	29	857,069	502,300	14	243,099	53,528	50,647	7,481
U. California, Davis	30	804,282	374,707	66,894	206,406	51,284	47,250	57,741
U. California, Berkeley	31	802,931	347,601	35,002	166,865	75,009	128,481	49,973
Emory U.	32	794,928	424,461	5,392	239,403	50,408	72,787	2,477
Vanderbilt U. and Vanderbilt U. Medical Center	33	776,937	492,808	1,268	184,711	60,971	34,258	2,921
U. Arizona	34	734,270	327,025	26,071	220,594	22,854	33,423	104,303
Michigan State U.	35	725,708	331,148	48,535	296,991	14,207	19,282	15,545
Icahn School of Medicine at Mount Sinai	36	722,241	443,745	9,191	134,825	69,816	56,296	8,368
U. Texas, Austin	37	696,111	407,981	21,573	144,157	75,638	40,388	6,374
U. Illinois, Urbana-Champaign	38	677,523	382,206	25,352	185,282	40,128	24,596	19,959
Indiana U., Bloomington	39	668,157	308,586	4,772	263,300	26,165	64,916	418
Purdue U., West Lafayette	40	663,927	249,831	38,744	242,643	60,411	36,497	35,801

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Rutgers, State U. New Jersey, New Brunswick	41	657,249	297,609	77,809	131,158	42,618	50,510	57,545
Baylor C. of Medicine	42	651,920	309,354	32,232	193,449	31,149	85,736	0
Arizona State U.	43	639,637	267,087	36,266	233,959	17,112	61,749	23,464
U. Virginia, Charlottesville	44	613,938	276,335	7,277	211,202	25,830	36,059	57,235
U. Alabama, Birmingham	45	607,863	398,403	11,434	106,085	60,048	31,893	0
U. Utah	46	601,133	302,585	6,199	217,878	39,084	31,700	3,687
U. Colorado Denver and Anschutz Medical Campus	47	542,732	353,021	24,979	53,541	50,510	51,586	9,095
Virginia Polytechnic Institute and State U.	48	541,969	209,607	54,131	221,817	43,433	7,097	5,884
North Carolina State U.	49	541,100	228,945	123,196	127,691	55,085	5,749	434
Boston U.	50	534,205	318,511	395	149,767	21,793	41,622	2,117
U. Cincinnati	51	529,796	252,892	6,716	137,969	40,435	65,864	25,920
U. Colorado Boulder	52	513,822	412,691	5,171	30,502	9,389	16,767	39,302
U. Iowa	53	508,353	252,563	6,290	207,385	22,153	19,962	0
U. Texas Southwestern Medical Center	54	496,697	203,544	79,363	68,457	31,317	59,096	54,920
U. Georgia	55	477,536	159,948	53,931	225,620	11,610	14,581	11,846
U. Chicago	56	459,171	332,776	87	44,762	40,457	40,694	395
U. California, Irvine	57	448,967	217,094	16,787	119,130	26,292	28,066	41,598
Case Western Reserve U.	58	438,994	357,549	1,771	44,093	8,363	23,865	3,353
Scripps Research Institute	59	427,734	267,122	4,347	76,306	39,161	40,798	0
Uniformed Services U. of the Health Sciences	60	417,300	297,808	0	95,062	0	24,430	0
Oregon Health and Science U.	61	415,629	298,227	80	38,139	36,000	42,653	530
SUNY, U. Buffalo	62	413,817	182,983	22,439	134,258	31,802	23,478	18,857
U. Kentucky	63	410,581	192,945	37,544	125,639	11,297	14,018	29,138
California Institute of Technology	64	399,931	287,198	1,367	42,683	15,052	29,267	24,364
Colorado State U., Fort Collins	65	398,477	284,482	18,401	57,160	13,089	17,821	7,524
U. Rochester	66	393,960	306,551	2,598	40,515	24,370	15,256	4,670
U. South Florida, Tampa	67	391,325	181,882	12,787	161,641	15,408	15,108	4,499
Princeton U.	68	385,739	193,453	704	80,414	17,701	55,994	37,473
U. Illinois, Chicago	69	382,949	208,603	7,828	122,535	13,892	22,626	7,465
Washington State U.	70	369,333	158,982	51,397	132,121	13,984	8,309	4,540
U. Miami	71	360,716	212,023	12,804	67,707	30,997	35,782	1,403
Carnegie Mellon U.	72	359,720	197,978	2,593	107,841	36,414	7,887	7,007
Iowa State U.	73	358,474	147,866	43,041	129,709	23,851	10,679	3,328
SUNY, Polytechnic Institute	74	352,889	38,245	189,201	12,963	110,306	1,301	873
U. Kansas	75	352,643	169,694	29,122	107,078	22,073	24,168	508
Rockefeller U.	76	351,089	84,566	484	224,310	7,518	34,018	193
Dartmouth C. and Dartmouth Hitchcock Medical Center	77	342,142	154,597	1,253	154,896	6,182	19,236	5,978
Florida State U.	78	329,205	149,784	4,635	156,893	2,331	7,687	7,875
U. Nebraska, Lincoln	79	316,820	109,954	55,969	118,095	18,157	4,893	9,752
U. Oklahoma, Norman and Health Science Center	80	302,679	164,855	35,137	74,505	14,954	9,041	4,187
Albert Einstein C. of Medicine	81	298,824	202,513	2,127	79,274	2,778	12,132	0

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Louisiana State U., Baton Rouge	82	296,497	88,721	67,140	107,220	12,178	12,570	8,668
Medical U. South Carolina	83	295,600	153,226	4,779	94,830	19,855	12,380	10,530
U. Connecticut	84	285,764	159,220	7,609	85,183	11,802	15,753	6,197
Temple U.	85	284,301	161,673	6,508	72,826	17,849	18,392	7,053
Utah State U.	86	283,917	220,504	23,310	24,814	7,063	630	7,596
U. Massachusetts, Medical School	87	281,507	197,388	477	43,238	16,386	16,933	7,085
U. Hawaii, Manoa	88	280,416	167,816	20,016	76,455	1,846	12,675	1,608
U. Missouri, Columbia	89	278,793	123,252	6,296	126,833	6,551	7,785	8,076
U. Texas Health Science Center, Houston	90	271,525	132,647	38,516	43,586	20,549	22,721	13,506
George Washington U.	91	269,799	155,697	1,159	64,471	4,123	33,776	10,573
Mississippi State U.	92	264,526	104,738	77,562	68,709	3,882	8,220	1,415
Oregon State U.	93	263,830	168,571	47,392	26,530	5,833	2,564	12,940
SUNY, Stony Brook U.	94	260,813	144,618	12,674	85,067	5,739	9,305	3,410
Brown U.	95	256,954	178,460	33	53,599	3,893	15,371	5,598
Virginia Commonwealth U.	96	255,648	142,293	27,123	60,805	9,959	15,468	0
U. Tennessee, Knoxville	97	247,693	123,434	14,104	98,238	6,142	2,731	3,044
Medical C. Wisconsin	98	244,752	119,036	621	77,429	22,323	18,986	6,357
Wayne State U.	99	244,217	118,043	10,568	81,510	6,995	22,182	4,919
U. California, Santa Barbara	100	243,778	118,517	4,592	49,052	19,264	32,192	20,161
Georgetown U.	101	240,960	94,050	1,844	66,400	14,835	41,846	21,985
U. Notre Dame	102	240,078	106,411	876	89,308	9,451	15,648	18,384
U. New Mexico	103	239,696	159,940	5,610	58,200	2,115	12,230	1,601
Wake Forest U.	104	238,933	165,702	14,549	22,580	13,689	14,009	8,404
Auburn U., Auburn	105	231,619	64,333	31,171	117,941	6,232	1,413	10,529
Woods Hole Oceanographic Institution	106	229,143	184,995	1,501	20,634	1,234	11,584	9,195
Florida International U.	107	225,864	96,912	14,884	102,581	1,652	8,509	1,326
U. Central Florida	108	225,085	99,310	11,312	86,353	11,438	6,768	9,904
U. Massachusetts, Amherst	109	223,177	117,359	12,409	70,889	10,026	8,986	3,508
Clemson U.	110	218,760	81,080	24,259	87,791	18,812	6,643	175
Kansas State U.	111	218,622	81,269	37,702	82,673	7,099	7,783	2,096
Tufts U.	112	213,285	146,630	1,944	22,548	11,123	27,005	4,035
U. Delaware	113	206,270	133,020	12,379	45,490	5,944	4,556	4,881
U. South Carolina, Columbia	114	205,940	102,992	3,097	79,622	5,411	9,752	5,066
Tulane U.	115	196,933	104,219	4,379	53,333	4,965	17,588	12,449
Georgia State U.	116	195,572	70,185	12,443	99,468	603	12,367	506
U. Houston	117	195,398	68,523	38,963	65,710	8,597	11,270	2,335
U. Nebraska, Medical Center	118	194,455	102,604	12,284	37,891	9,896	15,706	16,074
Texas Tech U.	119	193,923	35,136	23,788	104,700	16,210	13,963	126
U. Texas Health Science Center, San Antonio	120	188,483	96,502	20,807	42,551	8,499	19,715	409
West Virginia U.	121	187,512	82,353	8,972	69,819	5,808	4,779	15,781
George Mason U.	122	186,267	96,307	3,370	41,291	8,900	35,852	547
Oklahoma State U., Stillwater	123	184,276	39,880	23,288	107,127	13,185	698	98
Northeastern U.	124	183,998	126,762	1,926	39,442	7,629	7,788	451
Rice U.	125	182,564	83,584	6,013	53,316	10,814	23,426	5,411
SUNY, U. Albany	126	181,531	92,709	8,784	65,357	708	1,990	11,983

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
U. Arkansas, Fayetteville	127	180,225	50,875	53,643	61,913	7,274	6,123	397
U. California, Riverside	128	177,655	81,151	9,195	52,805	8,305	8,609	17,590
U. Texas Medical Branch	129	175,372	107,806	5,054	46,065	4,639	11,808	0
U. Louisville	130	173,462	87,563	8,114	48,834	7,475	7,880	13,596
Thomas Jefferson U.	131	170,458	74,816	3,010	56,965	18,910	9,041	7,716
U. Dayton	132	165,343	153,328	3,395	2,502	5,356	648	114
New Jersey Institute of Technology	133	161,232	89,846	3,268	55,507	2,511	5,099	5,001
U. Mississippi	134	158,809	73,865	3,579	73,478	2,602	3,712	1,573
Montana State U., Bozeman	135	154,811	88,955	17,738	39,627	1,974	4,251	2,266
Syracuse U.	136	154,366	37,803	4,884	94,588	5,820	11,103	168
U. Arkansas for Medical Sciences	137	153,135	63,498	8,991	62,472	6,877	2,756	8,541
North Dakota State U.	138	152,381	35,322	48,566	58,902	2,166	1,444	5,981
U. Nevada, Reno	139	152,128	62,903	9,753	70,376	2,556	2,177	4,363
Drexel U.	140	149,481	85,278	5,287	40,179	3,888	8,949	5,900
U. New Hampshire	141	148,980	90,241	4,648	38,163	8,680	6,422	826
U. Alaska, Fairbanks	142	144,457	92,964	2,874	39,572	3,333	1,753	3,961
U. Louisiana, Lafayette	143	144,187	34,400	17,869	31,636	48,344	11,938	0
U. California, Santa Cruz	144	142,958	74,669	6,280	31,144	5,452	14,838	10,575
U. Vermont	145	135,859	90,405	659	31,729	3,210	8,841	1,015
U. Maine	146	129,913	51,049	19,299	48,644	4,334	4,452	2,135
Wichita State U.	147	128,795	29,634	7,926	8,712	82,008	507	8
Cold Spring Harbor Laboratory	148	126,773	73,854	152	32,823	1,527	18,417	0
U. Texas, Dallas	149	126,661	48,466	12,133	38,469	4,762	22,831	0
U. Texas, Arlington	150	123,207	41,764	16,970	51,329	5,018	6,057	2,069
U. Rhode Island	151	115,160	73,080	10,878	25,849	4,268	427	658
U. Idaho	152	113,107	51,529	37,467	18,274	1,822	1,291	2,724
U. North Dakota	153	110,836	49,700	11,135	38,998	10,391	609	3
U. Oregon	154	110,664	80,083	786	22,044	295	6,505	951
U. Alabama, Huntsville	155	109,744	85,211	1,378	21,663	1,069	301	122
U. Texas, El Paso	156	106,809	41,261	17,507	33,594	872	4,587	8,988
U. Montana, Missoula	157	104,665	55,566	1,283	41,293	350	2,250	3,923
SUNY, Binghamton U.	158	104,297	24,213	6,085	68,519	3,508	1,243	729
Rensselaer Polytechnic Institute	159	103,739	50,448	5,091	29,674	14,189	4,337	0
New Mexico State U.	160	101,457	58,022	20,496	12,922	1,022	3,569	5,426
U. Nevada, Las Vegas	161	99,445	28,381	2,494	63,995	1,465	805	2,305
U. Tennessee, Health Science Center	162	96,979	42,396	4,185	23,971	3,245	12,094	11,088
Augusta U.	163	96,502	47,031	1,809	38,530	3,081	5,525	526
Rush U.	164	96,267	68,941	2,309	7,670	13,761	3,586	0
San Diego State U.	165	92,964	39,515	1,911	47,338	808	1,631	1,761
U. Texas, San Antonio	166	84,326	34,588	12,247	27,509	5,393	2,408	2,181
U. Massachusetts, Lowell	167	83,996	35,309	6,390	36,658	3,460	1,095	1,084
U. Alabama, Tuscaloosa	168	83,317	37,916	9,791	30,801	2,799	977	1,033
U. Maryland, Baltimore County	169	80,632	56,993	6,927	13,297	1,084	1,770	561
Michigan Technological U.	170	80,443	34,709	728	36,574	7,155	247	1,030
U. Wyoming	171	80,353	52,082	4,594	17,939	3,619	1,599	520

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Cleveland State U.	172	80,077	51,475	2,810	18,823	2,451	4,260	258
U. North Texas, Denton	173	78,691	17,345	2,735	53,843	1,807	1,087	1,874
U. Southern Mississippi	174	76,464	46,924	11,882	10,344	6,073	1,144	97
U. Tennessee, Knoxville, Institute of Agriculture	175	71,396	28,804	893	35,641	2,816	1,193	2,049
American U.	176	71,053	15,229	394	43,492	241	11,152	545
Colorado School of Mines	177	70,397	49,603	2,540	4,343	10,556	1,273	2,082
U. California, Office of the President	178	67,702	319	38,703	28,574	0	80	26
Indiana U.-Purdue U., Indianapolis	179	67,635	27,349	976	30,077	3,479	5,652	102
Old Dominion U.	180	67,425	31,355	10,109	21,337	1,430	2,675	519
Naval Postgraduate School	181	67,323	54,358	0	12,007	522	48	388
South Dakota State U.	182	66,794	29,683	15,663	4,511	1,955	4,442	10,540
Saint Louis U.	183	66,103	34,275	1,466	17,838	4,885	6,173	1,466
William & Mary	184	64,835	31,983	3,091	22,422	1,119	4,152	2,068
Texas State U.	185	64,554	29,614	4,871	25,361	725	3,983	0
Wright State U.	186	64,208	41,428	10,917	9,377	1,303	1,108	75
U. Massachusetts, Boston	187	62,018	25,083	2,369	28,163	1,675	4,108	620
Boston C.	188	61,956	32,475	2,163	13,596	440	13,104	178
Van Andel Research Institute	189	61,738	18,259	976	29,815	466	2,798	9,424
Brandeis U.	190	60,825	41,475	195	8,461	475	8,191	2,028
Northern Arizona U.	191	58,914	35,980	7,776	13,052	552	1,434	120
U. Memphis	192	58,700	18,370	7,117	29,849	1,317	1,541	506
Rochester Institute of Technology	193	58,175	26,359	10,835	16,939	2,271	1,007	764
U. Maryland Center for Environmental Science	194	56,033	17,476	25,840	10,418	940	1,267	92
East Carolina U.	195	55,611	17,428	516	28,806	4,076	4,714	71
U. Toledo	196	55,006	28,273	928	19,875	3,453	2,470	7
U. Wisconsin-Milwaukee	197	53,773	23,342	17,335	6,836	3,508	1,071	1,681
Ohio U.	198	53,735	14,802	3,942	27,950	4,497	2,411	133
CUNY, City C.	199	52,738	33,065	7,584	10,094	490	1,033	472
U. South Alabama	200	52,540	19,947	150	28,990	1,060	206	2,187
U. Texas Rio Grande Valley	201	52,016	13,629	6,309	27,496	218	3,996	368
Florida Atlantic U.	202	51,085	21,667	4,017	16,253	1,981	5,037	2,130
U. North Texas, Health Science Center	203	50,124	27,260	11,355	8,142	1,872	1,492	3
Portland State U.	204	50,045	33,055	4,913	7,713	1,156	2,620	588
Kent State U.	205	47,188	13,350	547	31,215	518	1,418	140
U. North Carolina, Charlotte	206	47,187	26,199	962	15,946	2,877	941	262
U. Puerto Rico, Medical Sciences Campus	207	45,014	34,570	849	5,476	4,091	0	28
U. California, Merced	208	44,890	16,850	3,137	20,887	474	1,937	1,605
San Jose State U.	209	44,309	35,143	2,202	3,106	746	1,111	2,001
Howard U.	210	44,163	29,978	1,478	8,386	3,685	636	0
Mercer U.	211	44,128	27,035	30	9,420	7,020	242	381
Texas Tech U., Health Sciences Center	212	44,072	11,345	17,778	8,854	433	1,963	3,699
U.S. Air Force Academy	213	43,941	35,294	0	7,814	833	0	0

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Southern Methodist U.	214	42,562	17,869	1,092	18,220	3,343	2,034	4
Florida A&M U.	215	42,470	35,362	1,647	4,651	543	267	0
U. West Florida	216	41,977	11,506	2,076	27,090	670	531	104
Missouri U. of Science and Technology	217	41,939	22,279	442	11,958	4,481	820	1,959
Southern Illinois U., Carbondale	218	41,729	12,625	604	20,494	7,394	612	0
Louisiana State U., Health Sciences Center, New Orleans	219	40,914	31,290	253	3,522	2,222	3,227	400
Worcester Polytechnic Institute	220	39,878	22,964	2,838	8,805	4,431	656	184
Boise State U.	221	39,824	24,493	2,347	12,116	254	530	84
Brigham Young U., Provo	222	39,582	23,901	1,274	7,404	3,332	3,216	455
Loyola U., Chicago	223	39,223	23,562	78	7,712	3,206	3,285	1,380
Lehigh U.	224	38,185	26,554	2,034	8,368	503	435	291
SUNY, Upstate Medical U.	225	38,091	22,028	2,302	7,531	2,380	2,039	1,811
Marquette U.	226	37,777	12,792	362	15,153	811	2,942	5,717
CUNY, Hunter C.	227	37,478	23,485	2,788	10,063	203	541	398
North Carolina Agricultural and Technical State U.	228	37,339	23,863	347	12,615	208	208	98
Stevens Institute of Technology	229	36,695	28,342	1,127	4,963	1,568	654	41
U. Denver	230	36,551	22,012	893	6,425	1,453	5,142	626
SUNY, Downstate Medical Center	231	36,015	26,914	21	7,150	469	1,096	365
Illinois Institute of Technology	232	34,334	28,827	1	1,826	2,328	1,007	345
Air Force Institute of Technology	233	34,016	21,856	0	12,037	73	50	0
Baylor U.	234	33,304	6,955	1,157	19,443	1,152	2,955	1,642
Texas A&M U.-Corpus Christi	235	32,944	14,451	8,481	3,981	479	2,548	3,004
U. South Dakota	236	32,028	13,367	1,843	15,676	48	1,094	0
San Francisco State U.	237	31,888	15,675	2,171	12,800	65	1,162	15
Morehouse School of Medicine	238	31,289	22,461	457	6,555	0	1,816	0
California Polytechnic State U., San Luis Obispo	239	30,923	9,720	2,682	14,717	1,485	2,319	0
Kennesaw State U.	240	30,381	2,499	107	26,300	840	598	37
U. Akron	241	30,020	11,796	4,604	7,713	3,781	1,330	796
SUNY, C. of Environmental Science and Forestry	242	29,137	7,743	13,726	6,552	469	542	105
U. Massachusetts, Dartmouth	243	28,036	7,353	1,603	17,421	1,140	287	232
U. Minnesota, Duluth	244	27,530	7,143	6,735	12,443	1,025	77	107
Illinois State U.	245	27,082	9,827	514	15,525	456	749	11
Eastern Virginia Medical School	246	27,064	19,408	458	4,286	1,226	1,686	0
Desert Research Institute	247	26,991	16,745	2,765	3,896	258	2,565	762
U. Puerto Rico, Mayaguez	248	26,877	15,653	517	9,252	993	417	45
U. Missouri, Kansas City	249	26,708	14,327	0	10,162	364	733	1,122
Rutgers, State U. New Jersey, Newark	250	26,661	15,397	1,361	6,607	548	1,739	1,009
Northern Illinois U.	251	26,570	8,610	1,167	16,077	337	255	124
U. North Carolina, Greensboro	252	26,325	18,923	268	5,804	194	149	987
Louisiana State U., Health Sciences Center, Shreveport	253	26,262	12,185	132	9,841	524	3,580	0

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Louisiana Tech U.	254	26,143	6,564	2,525	14,848	890	0	1,316
Western Michigan U. and Homer Stryker M.D. School of Medicine	255	25,071	14,399	464	6,320	1,685	623	1,580
Teachers C., Columbia U.	256	24,865	8,054	161	NA	1,156	13,167	2,327
New Mexico Institute of Mining and Technology	257	24,616	22,864	226	311	923	215	77
Nova Southeastern U.	258	24,567	8,965	2,366	10,660	2,035	398	143
Catholic U. of America	259	24,484	21,642	278	1,398	485	681	0
Loma Linda U.	260	24,408	16,909	742	3,328	1,828	1,502	99
U. Puerto Rico, Rio Piedras	261	24,088	13,943	84	9,791	117	110	43
Creighton U.	262	24,039	8,265	5,312	7,078	1,554	827	1,003
California State U., Sacramento	263	23,544	5,801	10,720	5,746	386	888	3
Albany Medical C.	264	23,028	11,827	0	4,294	4,413	1,355	1,139
Delaware State U.	265	23,017	12,179	498	10,315	25	0	0
Rowan U.	266	22,892	12,064	4,615	3,477	1,200	1,536	0
Villanova U.	267	22,837	4,085	1,219	16,135	369	778	251
Miami U.	268	22,380	9,755	1,877	9,085	1,155	438	70
Texas A&M U.-Kingsville	269	22,268	8,419	4,190	3,985	451	5,223	0
U. Alaska, Anchorage	270	21,724	14,219	1,980	4,001	465	624	435
California State U., Northridge	271	21,095	16,939	1,606	1,863	49	587	51
Tuskegee U.	272	20,562	14,825	2,573	2,653	0	0	511
Fordham U.	273	20,287	4,218	70	13,774	149	1,246	830
Marshall U.	274	19,622	9,617	2,025	6,107	413	1,460	0
Chapman U.	275	19,592	5,738	525	8,835	448	3,996	50
New York Medical C.	276	19,398	11,061	1,444	590	3,927	1,699	677
U. Nebraska, central administration	277	18,860	18,523	0	146	191	0	0
California State U., Long Beach	278	18,664	13,579	1,114	1,457	678	465	1,371
U. Tulsa	279	18,648	4,142	746	3,847	9,628	154	131
CUNY, Queens C.	280	18,391	13,457	975	3,403	16	535	5
Meharry Medical C.	281	18,286	16,443	0	921	50	872	0
Jackson State U.	282	18,160	16,259	0	1,438	0	347	116
Southern Illinois U., Edwardsville	283	18,088	3,561	147	12,944	1,121	260	55
Prairie View A&M U.	284	18,018	9,346	4,886	3,454	221	111	0
Northeast Ohio Medical U.	285	18,016	10,107	132	5,288	0	2,489	0
Oakland U.	286	18,002	6,690	1,544	7,410	939	1,419	0
Florida Institute of Technology	287	17,876	10,352	1,218	4,854	453	579	420
U. North Carolina, Wilmington	288	17,515	7,174	6,472	2,444	964	396	65
Clarkson U.	289	17,147	8,551	1,292	5,140	1,196	845	123
Central Michigan U.	290	17,102	8,100	77	7,798	43	806	278
Bowling Green State U.	291	17,026	5,852	1,443	9,126	37	461	107
Duquesne U.	292	16,947	4,552	812	9,191	266	2,118	8
U. Texas Health Science Center, Tyler	293	16,538	5,626	2,226	5,640	725	2,320	1
North Carolina Central U.	294	16,227	13,503	233	NA	262	980	1,249
Rosalind Franklin U. of Medicine and Science	295	16,126	8,865	45	4,788	1,500	922	6

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
California State U., San Bernardino	296	16,062	8,651	4,458	2,903	30	20	0
U. New Orleans	297	15,328	4,353	1,048	7,869	522	864	672
Tennessee State U.	298	15,236	8,962	752	5,443	66	13	0
Humboldt State U.	299	15,076	2,103	5,377	3,410	313	1,899	1,974
Idaho State U.	300	14,972	7,547	1,177	5,007	818	200	223
Alcorn State U.	301	14,435	7,540	4,725	2,133	37	0	0
U. Nebraska, Omaha	302	14,302	8,807	1,730	2,842	109	738	76
East Tennessee State U.	303	14,197	7,688	112	2,547	641	2,925	284
Tennessee Technological U.	304	13,801	6,153	4,544	2,751	69	170	114
Charles R. Drew U. of Medicine and Science	305	13,739	10,427	455	2,622	0	235	0
U. Missouri, Saint Louis	306	13,697	6,890	94	4,746	43	1,213	711
U.S. Naval Academy	307	13,621	12,991	0	275	0	355	0
Hampton U.	308	13,605	13,390	0	215	0	0	0
New School	309	13,421	1,819	466	3,459	211	6,091	1,375
Morgan State U.	310	13,253	11,952	336	507	278	58	122
Tarleton State U.	311	13,171	4,632	2,946	5,383	96	79	35
South Dakota School of Mines and Technology	312	12,973	9,283	1,101	1,638	680	229	42
Alabama A&M U.	313	12,840	8,277	4,405	19	139	0	0
Montana Technological U.	314	12,731	4,926	5,736	1,548	511	0	10
Embry-Riddle Aeronautical U.	315	12,478	8,970	0	1,001	1,187	132	1,188
California State U., Los Angeles	316	12,476	9,288	103	2,624	0	461	0
U. Baltimore	317	12,451	9,103	1,985	NA	34	937	392
U. North Florida	318	12,341	4,017	1,693	6,457	76	86	12
CUNY, John Jay C. of Criminal Justice	319	12,295	4,971	808	2,240	2,421	512	1,343
U. Guam	320	12,249	9,339	1,742	1,146	3	19	0
U. of the Virgin Islands	321	12,236	10,445	359	1,385	47	0	0
U. Hawaii, system office	322	12,159	12,052	0	107	0	0	0
Ball State U.	323	12,145	2,929	758	7,734	391	333	0
Western Washington U.	324	11,983	3,978	702	5,916	238	1,129	20
Texas Tech U., Health Sciences Center, El Paso	325	11,883	2,279	2,544	6,306	363	335	56
U. South Florida, Saint Petersburg	326	11,686	3,121	2,480	5,766	28	273	18
Virginia State U.	327	11,457	6,636	1,527	2,262	71	954	7
Ponce Health Sciences U.	328	11,390	8,339	450	0	0	0	2,601
Georgia Southern U.	329	11,166	1,780	265	4,610	4,511	0	0
U.S. Military Academy	330	10,765	10,528	0	0	237	0	0
Langston U.	331	10,719	6,622	0	3,856	241	0	0
California State U., San Marcos	332	10,595	9,134	1,394	48	0	19	0
Midwestern U.	333	10,343	1,045	50	8,670	308	270	0
Montclair State U.	334	10,225	4,164	331	904	117	4,604	105
Clark U.	335	10,193	3,495	181	5,162	43	1,295	17
Xavier U. Louisiana	336	10,152	8,679	514	932	0	27	0
William Paterson U.	337	10,122	1,592	0	8,476	1	53	0
U. Arkansas, Little Rock	338	9,975	6,688	673	2,089	162	363	0
Wesleyan U.	339	9,958	4,793	145	3,921	37	903	159

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Bryn Mawr C.	340	9,846	1,801	0	7,726	0	319	0
St. Edward's U.	341	9,650	6,500	1,500	700	150	500	300
CUNY, Graduate School of Public Health and Health Policy	342	9,521	5,572	1,190	1,518	328	913	0
Rhode Island C.	343	9,480	3,332	5,573	107	1	467	0
Sam Houston State U.	344	9,445	3,723	183	5,310	53	115	61
Salisbury U.	345	9,368	2,290	3,477	3,475	7	119	0
Western Kentucky U.	346	9,281	3,391	378	5,202	184	85	41
U. Tennessee, Chattanooga	347	9,280	2,393	1,195	4,945	217	354	176
Clark Atlanta U.	348	9,048	5,689	0	3,207	22	130	0
U. Arkansas, Pine Bluff	349	9,024	4,299	2,103	2,562	0	60	0
Arkansas State U., Jonesboro	350	8,945	4,876	3,010	781	209	6	63
U. Michigan, Dearborn	351	8,813	1,850	2	3,871	2,871	179	40
Wellesley C.	352	8,810	3,602	115	0	143	4,508	442
Pacific U.	353	8,753	3,917	317	2,356	397	1,766	0
James Madison U.	354	8,726	2,717	59	5,170	221	490	69
Claremont Graduate U.	355	8,715	1,886	321	2,809	1,056	2,527	116
California State U., Fresno	356	8,599	2,900	2,612	2,486	195	341	65
Kentucky State U.	357	8,433	4,692	3,626	10	72	33	0
CUNY, Advanced Science Research Center	358	8,310	6,859	17	706	288	141	299
Indiana U. Pennsylvania	359	8,119	1,810	321	5,515	9	464	0
Norfolk State U.	360	8,050	8,046	0	4	0	0	0
U. Washington, Bothell	361	7,950	3,353	111	915	184	3,366	21
Middle Tennessee State U.	362	7,673	2,473	474	3,955	237	113	421
C. Charleston	363	7,610	4,395	249	2,298	4	638	26
California State U., Bakersfield	364	7,591	4,376	90	2,753	60	0	312
U. New England	365	7,346	5,269	0	1,885	48	139	5
Loyola Marymount U.	366	7,272	1,185	591	4,924	0	571	1
Edward Via C. of Osteopathic Medicine	367	7,225	749	2	5,932	139	403	0
Eastern Michigan U.	368	7,175	2,135	36	4,654	91	245	14
California State U., Fullerton	369	7,173	4,340	298	1,872	198	465	0
U. Maryland, Eastern Shore	370	7,133	6,983	109	0	41	0	0
CUNY, Brooklyn C.	371	7,064	4,463	109	1,879	41	501	71
Seton Hall U.	372	7,056	3,982	1,871	120	232	851	0
U. Hawaii, Hilo	373	6,864	4,924	281	1,035	121	440	63
West Chester U. Pennsylvania	374	6,777	715	27	5,522	25	376	112
U. Southern Maine	375	6,654	2,551	3,839	161	0	88	15
Grand Valley State U.	376	6,592	1,663	190	3,423	39	877	400
Texas Christian U.	377	6,552	2,866	590	1,144	1,531	240	181
California State U., Monterey Bay	378	6,444	3,746	1,397	849	42	410	0
U. Oklahoma, Tulsa	379	6,373	1,803	240	2,649	209	1,084	388
Amherst C.	380	6,325	2,118	0	2,894	0	154	1,159
Claremont McKenna C.	381	6,214	730	38	4,915	0	531	0
DePaul U.	382	6,144	4,464	6	1,132	36	473	33
California State Polytechnic U., Pomona	383	6,099	3,555	994	1,094	447	9	0
Texas A&M International U.	384	6,068	1,847	1,077	1,555	54	1,498	37

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Smith C.	385	6,041	2,892	0	1,658	21	1,470	0
U. San Diego	386	6,036	2,511	135	2,823	0	273	294
New Jersey City U.	387	5,961	3,142	1,421	1,238	10	140	10
Missouri State U.	388	5,910	5,076	90	567	140	37	0
Florida Gulf Coast U.	389	5,907	3,773	877	103	24	1,130	0
West Virginia State U.	390	5,829	4,592	886	318	33	0	0
New York Institute of Technology	391	5,820	3,135	188	2,059	6	432	0
U. Central Oklahoma	392	5,682	1,457	607	3,546	69	3	0
Bucknell U.	393	5,625	1,764	80	3,201	214	355	11
Azusa Pacific U.	394	5,598	137	0	5,461	0	0	0
Grinnell C.	395	5,500	364	0	4,580	0	344	212
Southern U. and A&M C., Agricultural Research and Extension Center	396	5,448	3,057	2,323	68	0	0	0
West Texas A&M U.	397	5,437	1,565	1,587	1,197	963	62	63
Oklahoma State U., Center for Health Sciences	398	5,408	985	135	4,159	129	0	0
CUNY, Graduate Center	399	5,399	3,009	152	70	0	1,077	1,091
Gallaudet U.	400	5,382	2,190	0	2,436	1	153	602
Purdue U., Northwest	401	5,272	2,493	609	1,311	640	137	82
U. Detroit Mercy	402	5,210	4,936	0	121	12	141	0
Williams C.	403	5,188	1,131	0	1,758	0	145	2,154
Alfred U.	404	5,153	1,580	1,059	1,882	632	0	0
Long Island U.	405	5,113	1,839	11	2,935	173	155	0
U. New Haven	406	5,062	2,786	559	542	490	685	0
Naval War C.	407	5,060	5,060	0	0	0	0	0
Franklin and Marshall C.	408	5,041	1,582	321	2,375	208	265	290
Western U. of Health Sciences	409	4,951	3,035	655	175	839	194	53
U. Massachusetts, central office	410	4,916	488	3,226	240	323	578	61
Texas Southern U.	411	4,893	3,238	922	662	36	35	0
Lamar U.	412	4,848	2,641	902	695	131	333	146
U. of the District of Columbia	413	4,800	3,283	62	1,455	0	0	0
Oregon Institute of Technology	414	4,793	437	2,585	488	1,126	157	0
Fisk U.	415	4,748	4,615	0	0	47	86	0
U. Colorado Colorado Springs	416	4,720	3,072	682	424	471	71	0
Fayetteville State U.	417	4,695	2,168	476	1,793	168	90	0
CUNY, Lehman C.	418	4,690	3,342	0	787	0	0	561
Southern Connecticut State U.	419	4,627	803	160	3,471	6	108	79
U. North Carolina, Asheville	420	4,602	1,846	203	418	13	2,122	0
Lincoln U., Jefferson City	421	4,581	2,700	1,881	NA	0	0	0
U. Northern Colorado	422	4,571	1,966	235	1,940	14	416	0
Morehouse C.	423	4,564	4,494	0	0	0	0	70
Fort Valley State U.	424	4,563	4,434	0	129	0	0	0
Southern U. and A&M C., Baton Rouge	425	4,492	3,243	290	704	255	0	0
Texas Woman's U.	426	4,477	1,864	559	1,321	126	607	0
Youngstown State U.	427	4,447	2,878	665	798	34	71	1
Carleton C.	428	4,388	1,891	98	1,955	0	423	21

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
National Defense U.	429	4,231	4,231	0	0	0	0	0
Swarthmore C.	430	4,203	1,539	0	2,344	0	320	0
U. North Carolina, general administration	431	4,154	213	3,941	0	0	0	0
MGH Institute of Health Professions	432	4,130	3,494	0	20	0	616	0
Milwaukee School of Engineering	433	4,026	764	93	0	3,141	14	14
Barnard C.	434	4,010	2,871	0	656	136	347	0
CUNY, C. Staten Island	435	3,986	2,421	680	408	175	64	238
U. Central del Caribe	436	3,953	2,705	215	1,002	0	0	31
U. Ana G. Mendez, Gurabo	437	3,945	951	0	2,994	0	0	0
Roseman U. of Health Sciences	438	3,916	17	8	3,746	56	89	0
Pace U.	439	3,855	2,579	7	1,183	18	64	4
Memorial Sloan Kettering Cancer Center, Louis V. Gerstner Jr. Graduate S. of Biomedical Sciences	440	3,769	191	0	3,576	0	2	0
Central State U.	441	3,766	2,517	1,249	0	0	0	0
Colgate U.	442	3,756	1,202	0	2,313	0	241	0
Haverford C.	443	3,752	2,343	0	919	0	219	271
U. of the Sciences Philadelphia	444	3,740	1,318	76	745	1,117	484	0
Trinity U.	445	3,736	924	0	1,431	0	1,216	165
Dakota State U.	446	3,710	3,008	129	538	33	2	0
Murray State U.	446	3,710	2,639	22	982	67	0	0
Toyota Technological Institute, Chicago	448	3,681	1,934	0	1,325	305	117	0
Stephen F. Austin State U.	449	3,679	1,332	1,430	543	21	184	169
South Carolina State U.	450	3,659	3,659	NA	NA	NA	NA	NA
U. Northern Iowa	451	3,628	2,343	301	808	135	41	0
Touro U.	452	3,543	1,540	37	1,917	4	45	0
U. Central Arkansas	453	3,477	1,462	359	1,484	30	142	0
U. Washington, Tacoma	454	3,471	2,808	452	184	0	26	1
U. Wisconsin-Stevens Point	455	3,464	1,096	960	1,111	71	153	73
Towson U.	456	3,423	2,144	19	851	75	303	31
Pennsylvania State U., Behrend	457	3,414	1,427	75	1,092	515	305	0
Texas A&M U.-Commerce	458	3,403	836	296	1,756	31	184	300
Minnesota State U., Mankato	459	3,392	708	179	1,339	0	951	215
Albany C. of Pharmacy and Health Sciences	460	3,383	1,692	0	744	901	40	6
Tougaloo C.	461	3,380	3,380	0	0	0	0	0
Harvey Mudd C.	462	3,353	1,619	0	1,208	201	191	134
St. Cloud State U.	463	3,275	733	159	1,180	743	460	0
Appalachian State U.	464	3,268	1,332	337	657	580	357	5
Reed C.	465	3,240	1,423	23	1,558	0	236	0
California State U., Chico	466	3,232	1,864	523	456	36	100	253
Central Washington U.	467	3,223	2,159	322	460	21	115	146
Rutgers, State U. New Jersey, Camden	468	3,211	1,096	86	1,370	120	537	2
Philadelphia C. of Osteopathic Medicine	469	3,162	346	0	2,368	0	448	0

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Colorado State U., Pueblo	470	3,107	1,282	1,725	89	0	0	11
U. of the Pacific	471	3,078	2,158	404	NA	33	483	0
Skidmore C.	472	3,012	2,261	0	465	0	286	0
Bowdoin C.	473	2,991	1,790	31	758	1	411	0
Pomona C.	474	2,985	863	8	1,468	0	646	0
Mount Holyoke C.	475	2,979	2,074	41	398	0	466	0
SUNY, C. of Optometry	476	2,968	1,823	0	350	711	84	0
California State U., Maritime Academy	477	2,959	617	155	71	2,116	0	0
U. Nebraska, Kearney	478	2,919	1,240	695	891	45	14	34
Saint Joseph's U.	479	2,851	373	769	1,260	4	245	200
Grambling State U.	480	2,836	1,066	670	1,100	0	0	0
Saginaw Valley State U.	481	2,818	2,339	19	271	1	159	29
Pennsylvania State U., Harrisburg	482	2,805	80	596	1,525	188	416	0
U. Richmond	483	2,783	1,575	0	815	0	382	11
Dillard U.	484	2,772	1,390	185	732	0	98	367
Spelman C.	485	2,751	2,004	0	560	187	0	0
Lewis and Clark C.	486	2,750	931	0	1,483	0	336	0
Hope C.	487	2,745	1,361	0	281	0	1,103	0
U. San Francisco	488	2,712	198	257	1,723	0	534	0
CUNY, New York City C. of Technology	489	2,711	1,891	5	256	554	5	0
U. Wisconsin-La Crosse	490	2,692	777	700	469	518	199	29
Northwest Indian C.	491	2,659	2,520	0	24	0	115	0
Stockton U.	492	2,634	553	1,787	289	0	5	0
Western Carolina U.	493	2,633	1,736	154	477	113	153	0
CUNY, system office	494	2,619	2,241	23	109	0	131	115
Alabama State U.	495	2,577	2,577	0	0	0	0	0
Elon U.	496	2,545	284	0	2,179	37	42	3
Pittsburg State U.	497	2,513	339	976	NA	1,025	173	0
U. South Carolina, Aiken	498	2,481	2,379	0	99	0	3	0
Northeastern Illinois U.	499	2,478	2,478	0	0	0	0	0
Occidental C.	500	2,458	1,614	164	NA	291	389	0
Jacksonville State U.	501	2,429	2,312	0	100	17	0	0
Yeshiva U.	502	2,420	380	0	869	0	381	790
Purdue U., Fort Wayne	503	2,416	544	423	879	135	144	291
CUNY, Baruch C.	504	2,387	1,359	98	570	0	330	30
Western Illinois U.	505	2,373	1,495	182	344	94	0	258
U. Louisiana, Monroe	506	2,364	1,949	179	94	2	140	0
Northern Kentucky U.	507	2,363	1,316	105	769	33	140	0
St. John's U., New York	508	2,352	1,666	0	405	162	105	14
Sul Ross State U.	508	2,352	339	160	593	52	622	586
Santa Clara U.	510	2,319	1,333	210	NA	250	526	0
Austin Peay State U.	511	2,285	295	1,295	486	196	0	13
Erikson Institute	512	2,279	753	588	179	0	759	0
U. Wisconsin-Superior	513	2,250	1,527	125	510	39	2	47
Colorado C.	514	2,233	324	303	1,039	0	567	0
Seattle U.	515	2,223	1,307	78	312	2	362	162

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
U. Houston-Downtown	516	2,216	1,437	99	368	0	312	0
Winthrop U.	517	2,189	1,438	99	477	7	168	0
Wheaton C., Wheaton	518	2,173	301	0	950	2	920	0
Pepperdine U.	519	2,170	914	54	1,059	0	143	0
Johnson C. Smith U.	520	2,148	1,909	100	0	0	139	0
SUNY, Geneseo	521	2,139	1,206	15	903	0	15	0
Bates C.	522	2,135	1,607	0	284	0	101	143
SUNY, Buffalo State	523	2,124	1,225	435	209	37	209	9
Polytechnic U. Puerto Rico	524	2,118	1,884	0	234	0	0	0
Keck Graduate Institute	525	2,095	1,078	0	673	139	34	171
U. Wisconsin-Green Bay	526	2,083	821	502	640	41	77	2
Oberlin C.	527	2,076	1,576	0	469	3	28	0
U. North Georgia	528	2,068	637	29	861	1	540	0
U. Texas, Tyler	529	2,063	813	295	541	247	73	94
Northwestern State U. Louisiana	530	2,058	579	1,235	244	0	0	0
Niagara U.	531	2,057	355	275	620	0	807	0
Hamilton C.	532	2,050	190	0	1,302	0	491	67
Coastal Carolina U.	533	2,042	1,294	177	42	1	517	11
Black Hills State U.	534	2,031	1,535	147	349	0	0	0
Morehead State U.	535	2,028	1,651	50	317	0	10	0
Eastern Washington U.	536	2,024	864	906	NA	123	84	47
Winston-Salem State U.	537	2,011	2,011	0	NA	0	0	0
Florida Polytechnic U.	538	2,006	338	1,289	369	2	1	7
Hawaii Pacific U.	539	1,980	1,809	0	136	0	35	0
Southeastern Louisiana U.	540	1,971	803	174	782	12	168	32
Christopher Newport U.	541	1,961	1,285	43	265	111	90	167
California State U., Dominguez Hills	542	1,957	1,261	27	653	7	0	9
Des Moines U.	543	1,954	845	320	680	21	88	0
Willamette U.	544	1,953	549	4	861	0	539	0
Hobart and William Smith Colleges	545	1,919	1,047	329	453	0	90	0
Bowie State U.	546	1,911	1,911	0	0	0	0	0
Connecticut C.	547	1,894	752	0	1,089	0	53	0
U. Illinois, Springfield	548	1,876	980	44	774	4	74	0
U. South Florida, Sarasota-Manatee	549	1,872	0	0	1,859	0	12	1
U. of St. Thomas (MN)	550	1,870	313	380	603	287	249	38
U. Puerto Rico, Cayey	550	1,870	963	0	722	0	185	0
Trinity C., Hartford	552	1,858	1,077	0	582	4	195	0
Colby C.	553	1,852	1,093	1	512	0	0	246
Roger Williams U.	553	1,852	1,135	138	502	33	44	0
Babson C.	555	1,845	14	0	868	101	198	664
Macalester C.	556	1,808	805	95	797	0	111	0
Mercyhurst U.	557	1,801	668	555	578	0	0	0
U. of the Incarnate Word	558	1,800	1,075	52	462	0	208	3
SUNY, Oswego	559	1,781	628	66	1,028	0	48	11
Liberty U.	560	1,780	535	344	596	51	254	0

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Davidson C.	561	1,777	973	0	642	4	158	0
Alaska Pacific U.	562	1,774	451	5	0	1,312	0	6
Kettering U.	563	1,765	402	0	720	602	41	0
C. Wooster	564	1,758	456	0	997	0	297	8
Clafin U.	565	1,746	1,735	0	0	0	11	0
Hofstra U.	566	1,744	1,296	51	206	58	99	34
Union C., Schenectady	567	1,740	972	19	637	26	61	25
SUNY, C. Plattsburgh	568	1,729	1,197	59	472	0	1	0
Savannah State U.	569	1,720	1,709	11	0	0	0	0
U. Wisconsin-Oshkosh	570	1,713	1,282	0	0	0	0	431
Indiana State U.	571	1,682	1,190	142	186	70	94	0
Gettysburg C.	572	1,664	841	0	186	59	394	184
Eastern Connecticut State U.	573	1,659	181	12	1,466	0	0	0
Middlebury C.	574	1,657	1,558	0	40	6	53	0
Franklin W. Olin C. of Engineering	575	1,655	162	0	574	92	697	130
Palmer C. of Chiropractic, Davenport	576	1,650	1,100	0	550	0	0	0
Mills C.	577	1,643	840	61	49	0	693	0
Furman U.	578	1,628	1,106	0	403	0	119	0
CUNY, York C.	579	1,621	1,511	0	88	22	0	0
La Sierra U.	580	1,581	640	0	403	0	538	0
Calvin U.	581	1,577	925	32	5	99	188	328
California State U., Channel Islands	582	1,572	500	704	337	21	0	10
Lafayette C.	583	1,554	910	10	598	36	0	0
U. Wisconsin-Eau Claire	584	1,530	748	338	260	68	114	2
U. Hartford	585	1,528	1,019	0	486	23	0	0
Northern Michigan U.	586	1,520	311	2	1,027	86	38	56
Albany State U.	587	1,491	1,065	256	0	170	0	0
California State U., Stanislaus	588	1,477	964	78	96	277	62	0
Fort Lewis C.	589	1,460	1,284	61	85	7	23	0
U. Michigan, Flint	590	1,448	122	205	855	131	121	14
Marshall B. Ketchum U.	591	1,430	336	0	725	369	0	0
CUNY, Medgar Evers C.	592	1,397	954	0	383	0	60	0
SUNY, C. Brockport	593	1,390	638	244	480	0	7	21
Central Connecticut State U.	594	1,381	540	339	463	0	39	0
U. Houston-Clear Lake	595	1,370	718	431	39	51	131	0
Bradley U.	596	1,357	515	49	265	515	0	13
Lawrence Technological U.	597	1,352	304	224	96	279	449	0
U. Alaska, Southeast	598	1,341	1,235	87	2	2	15	0
U. of Mary Washington	599	1,315	577	35	577	0	94	32
Monmouth U.	600	1,294	120	735	62	21	321	35
Fairfield U.	601	1,279	594	0	164	0	521	0
Benedict C.	602	1,269	1,226	14	0	0	29	0
Salish Kootenai C.	603	1,252	1,251	0	0	0	1	0
National U. of Natural Medicine	604	1,245	760	0	308	172	0	5
Heidelberg U.	605	1,237	164	651	178	62	182	0
U. Minnesota, Morris	606	1,234	195	18	1,011	0	10	0

TABLE 21

Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
New England C. of Optometry	607	1,223	928	0	174	44	77	0
Saint Michael's C.	608	1,200	964	0	236	0	0	0
U. Puerto Rico, Humacao	609	1,195	828	0	367	0	0	0
Saint John's U., Collegeville	610	1,191	0	0	1,191	0	0	0
Manhattan C.	611	1,190	245	220	430	295	0	0
Biola U.	612	1,155	641	18	294	77	95	30
Emerson C.	613	1,145	138	184	398	8	417	0
California Lutheran U.	614	1,143	256	5	880	0	2	0
Fort Hays State U.	614	1,143	694	326	123	0	0	0
Andrews U.	616	1,126	278	0	615	0	233	0
C. of Saint Benedict	616	1,126	45	0	1,081	0	0	0
Dine C.	616	1,126	1,126	0	0	0	0	0
Eastern Kentucky U.	619	1,125	598	82	328	2	13	102
Doane U.	620	1,093	928	0	148	0	17	0
Kenyon C.	621	1,092	776	0	176	0	140	0
U. Wisconsin-Platteville	622	1,084	339	276	183	248	29	9
Whitman C.	623	1,083	704	0	207	0	172	0
Keene State C.	624	1,061	1,022	0	39	0	0	0
Providence C.	625	1,042	857	0	152	0	33	0
Albion C.	626	1,040	180	0	860	0	0	0
Dickinson C.	627	1,037	324	111	350	0	209	43
Rhode Island School of Design	628	1,027	246	44	450	234	53	0
St. Olaf C.	629	1,010	255	10	638	0	107	0
Vassar C.	630	1,009	909	0	53	0	19	28
U.S. Army War C.	631	1,000	567	107	231	31	46	18
Augsburg U.	632	991	496	0	441	0	0	54
Canisius C.	633	950	943	0	0	0	7	0
U. Portland	634	942	218	292	189	2	241	0
Chicago State U.	635	898	898	0	0	0	0	0
Drake U.	636	865	463	11	236	7	146	2
American Samoa Community C.	637	860	860	0	0	0	0	0
Salus U.	638	854	696	13	77	60	8	0
Augustana U.	639	841	784	0	57	0	0	0
Bethune-Cookman U.	640	735	735	0	0	0	0	0
A. T. Still U.	641	644	434	0	87	1	122	0
Allegheny C.	642	632	217	5	248	0	160	2
U. Ana G. Mendez, Cupey	643	624	608	0	16	0	0	0
Texas A&M U.-Central Texas	644	428	45	250	71	0	62	0
Maine Maritime Academy	645	358	282	0	76	0	0	0
Southwest C. of Naturopathic Medicine and Health Sciences	646	230	0	0	30	0	200	0
Rider U.	647	228	68	25	104	0	29	2

i = imputed. NA = not available; data were not provided by institution.

^a Johns Hopkins University includes the Applied Physics Laboratory, with \$1,725,018 thousand in total R&D expenditures in FY 2019.^b The University of Maryland includes expenditures from the University of Maryland, Baltimore and University of Maryland, College Park campuses. In FY 2019, the two campuses began reporting as one research unit to reflect their new strategic partnership. This relationship was codified through the University of Maryland Strategic Partnership Act passed by the Maryland General Assembly in 2016. Prior to FY 2019, both campuses reported to the survey as separate institutions.

Note(s):

Tied institutions are ranked alphabetically. Ranked institutions are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large, multi-campus universities; some are part of state university systems. For a complete list of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table 6. For complete rankings of all institutions in both survey populations, see table 5.

Source(s):

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2019.

TABLE 31

Higher education R&D expenditures at historically black colleges and universities, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
All HBCUs	-	508,537	371,149	39,900	81,044	6,904	7,000	2,540
Howard U.	1	44,163	29,978	1,478	8,386	3,685	636	0
Florida A&M U.	2	42,470	35,362	1,647	4,651	543	267	0
North Carolina Agricultural and Technical State U.	3	37,339	23,863	347	12,615	208	208	98
Morehouse School of Medicine	4	31,289	22,461	457	6,555	0	1,816	0
Delaware State U.	5	23,017	12,179	498	10,315	25	0	0
Tuskegee U.	6	20,562	14,825	2,573	2,653	0	0	511
Meharry Medical C.	7	18,286	16,443	0	921	50	872	0
Jackson State U.	8	18,160	16,259	0	1,438	0	347	116
Prairie View A&M U.	9	18,018	9,346	4,886	3,454	221	111	0
North Carolina Central U.	10	16,227	13,503	233	NA	262	980	1,249
Tennessee State U.	11	15,236	8,962	752	5,443	66	13	0
Alcorn State U.	12	14,435	7,540	4,725	2,133	37	0	0
Hampton U.	13	13,605	13,390	0	215	0	0	0
Morgan State U.	14	13,253	11,952	336	507	278	58	122
Alabama A&M U.	15	12,840	8,277	4,405	19	139	0	0
U. of the Virgin Islands	16	12,236	10,445	359	1,385	47	0	0
Virginia State U.	17	11,457	6,636	1,527	2,262	71	954	7
Langston U.	18	10,719	6,622	0	3,856	241	0	0
Xavier U. Louisiana	19	10,152	8,679	514	932	0	27	0
Clark Atlanta U.	20	9,048	5,689	0	3,207	22	130	0
U. Arkansas, Pine Bluff	21	9,024	4,299	2,103	2,562	0	60	0
Kentucky State U.	22	8,433	4,692	3,626	10	72	33	0
Norfolk State U.	23	8,050	8,046	0	4	0	0	0
U. Maryland, Eastern Shore	24	7,133	6,983	109	0	41	0	0
West Virginia State U.	25	5,829	4,592	886	318	33	0	0
Southern U. and A&M C., Agricultural Research and Extension Center	26	5,448	3,057	2,323	68	0	0	0
Texas Southern U.	27	4,893	3,238	922	662	36	35	0
U. of the District of Columbia	28	4,800	3,283	62	1,455	0	0	0
Fisk U.	29	4,748	4,615	0	0	47	86	0
Fayetteville State U.	30	4,695	2,168	476	1,793	168	90	0
Lincoln U., Jefferson City	31	4,581	2,700	1,881	NA	0	0	0
Morehouse C.	32	4,564	4,494	0	0	0	0	70
Fort Valley State U.	33	4,563	4,434	0	129	0	0	0
Southern U. and A&M C., Baton Rouge	34	4,492	3,243	290	704	255	0	0
Central State U.	35	3,766	2,517	1,249	0	0	0	0
South Carolina State U.	36	3,659	3,659	NA	NA	NA	NA	NA
Tougaloo C.	37	3,380	3,380	0	0	0	0	0
Grambling State U.	38	2,836	1,066	670	1,100	0	0	0
Dillard U.	39	2,772	1,390	185	732	0	98	367
Spelman C.	40	2,751	2,004	0	560	187	0	0
Alabama State U.	41	2,577	2,577	0	0	0	0	0
Johnson C. Smith U.	42	2,148	1,909	100	0	0	139	0
Winston-Salem State U.	43	2,011	2,011	0	NA	0	0	0
Bowie State U.	44	1,911	1,911	0	0	0	0	0
Claflin U.	45	1,746	1,735	0	0	0	11	0

TABLE 31

Higher education R&D expenditures at historically black colleges and universities, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
Savannah State U.	46	1,720	1,709	11	0	0	0	0
Albany State U.	47	1,491	1,065	256	0	170	0	0
Benedict C.	48	1,269	1,226	14	0	0	29	0
Bethune-Cookman U.	49	735	735	0	0	0	0	0

NA = not available; data were not provided by institution.

HBCUs = historically black colleges and universities.

Note(s):

Ranked institutions are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large, multi-campus universities; some are part of state university systems. For a complete list of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table 6.

Source(s):

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2019.

TABLE 33

Higher education R&D expenditures at high-Hispanic-enrollment institutions, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds					
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
All HHE institutions	-	6,390,308	2,740,764	658,003	1,864,998	375,683	336,266	414,594
U. Texas M. D. Anderson Cancer Center	1	969,496	176,156	258,019	214,509	156,237	28,010	136,565
U. Arizona	2	734,270	327,025	26,071	220,594	22,854	33,423	104,303
U. California, Irvine	3	448,967	217,094	16,787	119,130	26,292	28,066	41,598
U. Illinois, Chicago	4	382,949	208,603	7,828	122,535	13,892	22,626	7,465
U. Texas Health Science Center, Houston	5	271,525	132,647	38,516	43,586	20,549	22,721	13,506
U. California, Santa Barbara	6	243,778	118,517	4,592	49,052	19,264	32,192	20,161
U. New Mexico	7	239,696	159,940	5,610	58,200	2,115	12,230	1,601
Florida International U.	8	225,864	96,912	14,884	102,581	1,652	8,509	1,326
U. Central Florida	9	225,085	99,310	11,312	86,353	11,438	6,768	9,904
U. Houston	10	195,398	68,523	38,963	65,710	8,597	11,270	2,335
Texas Tech U.	11	193,923	35,136	23,788	104,700	16,210	13,963	126
U. Texas Health Science Center, San Antonio	12	188,483	96,502	20,807	42,551	8,499	19,715	409
U. California, Riverside	13	177,655	81,151	9,195	52,805	8,305	8,609	17,590
U. California, Santa Cruz	14	142,958	74,669	6,280	31,144	5,452	14,838	10,575
U. Texas, Arlington	15	123,207	41,764	16,970	51,329	5,018	6,057	2,069
U. Texas, El Paso	16	106,809	41,261	17,507	33,594	872	4,587	8,988
New Mexico State U.	17	101,457	58,022	20,496	12,922	1,022	3,569	5,426
U. Nevada, Las Vegas	18	99,445	28,381	2,494	63,995	1,465	805	2,305
Rush U.	19	96,267	68,941	2,309	7,670	13,761	3,586	0
San Diego State U.	20	92,964	39,515	1,911	47,338	808	1,631	1,761
U. Texas, San Antonio	21	84,326	34,588	12,247	27,509	5,393	2,408	2,181
U. North Texas, Denton	22	78,691	17,345	2,735	53,843	1,807	1,087	1,874
Texas State U.	23	64,554	29,614	4,871	25,361	725	3,983	0
CUNY, City C.	24	52,738	33,065	7,584	10,094	490	1,033	472
U. Texas Rio Grande Valley	25	52,016	13,629	6,309	27,496	218	3,996	368
Florida Atlantic U.	26	51,085	21,667	4,017	16,253	1,981	5,037	2,130
U. Puerto Rico, Medical Sciences Campus	27	45,014	34,570	849	5,476	4,091	0	28
U. California, Merced	28	44,890	16,850	3,137	20,887	474	1,937	1,605
San Jose State U.	29	44,309	35,143	2,202	3,106	746	1,111	2,001
CUNY, Hunter C.	30	37,478	23,485	2,788	10,063	203	541	398
Texas A&M U.-Corpus Christi	31	32,944	14,451	8,481	3,981	479	2,548	3,004
San Francisco State U.	32	31,888	15,675	2,171	12,800	65	1,162	15
U. Puerto Rico, Mayaguez	33	26,877	15,653	517	9,252	993	417	45
Rutgers, State U. New Jersey, Newark	34	26,661	15,397	1,361	6,607	548	1,739	1,009

TABLE 33

Higher education R&D expenditures at high-Hispanic-enrollment institutions, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds							
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources		
New Mexico Institute of Mining and Technology	35	24,616	22,864	226	311	923	215	77		
Nova Southeastern U.	36	24,567	8,965	2,366	10,660	2,035	398	143		
Loma Linda U.	37	24,408 i	16,909 i	742 i	3,328 i	1,828 i	1,502 i	99 i		
U. Puerto Rico, Rio Piedras	38	24,088	13,943	84	9,791	117	110	43		
California State U., Sacramento	39	23,544	5,801	10,720	5,746	386	888	3		
Texas A&M U.-Kingsville	40	22,268	8,419	4,190	3,985	451	5,223	0		
California State U., Northridge	41	21,095	16,939	1,606	1,863	49	587	51		
California State U., Long Beach	42	18,664	13,579	1,114	1,457	678	465	1,371		
CUNY, Queens C.	43	18,391	13,457	975	3,403	16	535	5		
California State U., San Bernardino	44	16,062	8,651	4,458	2,903	30	20	0		
Humboldt State U.	45	15,076	2,103	5,377	3,410	313	1,899	1,974		
Charles R. Drew U. of Medicine and Science	46	13,739	10,427	455	2,622	0	235	0		
California State U., Los Angeles	47	12,476	9,288	103	2,624	0	461	0		
CUNY, John Jay C. of Criminal Justice	48	12,295	4,971	808	2,240	2,421	512	1,343		
Texas Tech U., Health Sciences Center, El Paso	49	11,883	2,279	2,544	6,306	363	335	56		
Ponce Health Sciences U.	50	11,390	8,339	450	0	0	0	2,601		
California State U., San Marcos	51	10,595	9,134	1,394	48	0	19	0		
Montclair State U.	52	10,225	4,164	331	904	117	4,604	105		
William Paterson U.	53	10,122	1,592	0	8,476	1	53	0		
St. Edward's U.	54	9,650	6,500	1,500	700	150	500	300		
California State U., Fresno	55	8,599	2,900	2,612	2,486	195	341	65		
California State U., Bakersfield	56	7,591	4,376	90	2,753	60	0	312		
California State U., Fullerton	57	7,173	4,340	298	1,872	198	465	0		
California State U., Monterey Bay	58	6,444	3,746	1,397	849	42	410	0		
California State Polytechnic U., Pomona	59	6,099	3,555	994	1,094	447	9	0		
Texas A&M International U.	60	6,068	1,847	1,077	1,555	54	1,498	37		
New Jersey City U.	61	5,961	3,142	1,421	1,238	10	140	10		
Azusa Pacific U.	62	5,598	137	0	5,461	0	0	0		
West Texas A&M U.	63	5,437	1,565	1,587	1,197	963	62	63		
CUNY, Graduate Center	64	5,399	3,009	152	70	0	1,077	1,091		
CUNY, Lehman C.	65	4,690	3,342	0	787	0	0	561		
Texas Woman's U.	66	4,477	1,864	559	1,321	126	607	0		
CUNY, C. Staten Island	67	3,986	2,421	680	408	175	64	238		
U. Central del Caribe	68	3,953	2,705	215	1,002	0	0	31		
U. Ana G. Mendez, Gurabo	69	3,945	951	0	2,994	0	0	0		

TABLE 33

Higher education R&D expenditures at high-Hispanic-enrollment institutions, ranked by all R&D expenditures, by source of funds: FY 2019

(Dollars in thousands)

Institution	Rank	All R&D expenditures	Source of funds						
			Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources	
California State U., Chico	70	3,232	1,864	523	456	36	100	253	
Colorado State U., Pueblo	71	3,107	1,282	1,725	89	0	0	11	
CUNY, New York City C. of Technology	72	2,711	1,891	5	256	554	5	0	
Northeastern Illinois U.	73	2,478	2,478	0	0	0	0	0	
Sul Ross State U.	74	2,352	339	160	593	52	622	586	
U. Houston-Downtown	75	2,216	1,437	99	368	0	312	0	
Polytechnic U. Puerto Rico	76	2,118	1,884	0	234	0	0	0	
California State U., Dominguez Hills	77	1,957	1,261	27	653	7	0	9	
U. Puerto Rico, Cayey	78	1,870	963	0	722	0	185	0	
U. of the Incarnate Word	79	1,800	1,075	52	462	0	208	3	
Mills C.	80	1,643	840	61	49	0	693	0	
CUNY, York C.	81	1,621	1,511	0	88	22	0	0	
La Sierra U.	82	1,581	640	0	403	0	538	0	
California State U., Channel Islands	83	1,572	500	704	337	21	0	10	
California State U., Stanislaus	84	1,477	964	78	96	277	62	0	
U. Houston-Clear Lake	85	1,370	718	431	39	51	131	0	
U. Puerto Rico, Humacao	86	1,195	828	0	367	0	0	0	
California Lutheran U.	87	1,143	256	5	880	0	2	0	
U. Ana G. Mendez, Cupey	88	624	608	0	16	0	0	0	

HHE = high Hispanic enrollment.

Note(s):

HHE institutions are those whose full-time equivalent (FTE) undergraduate students enrollment is at least 25% Hispanic, according to fall 2018 data in the Integrated Postsecondary Education Data System, directed by the National Center for Education Statistics. FTE enrollment is calculated as full-time undergraduate student enrollment plus one-third of part-time undergraduate student enrollment. Ranked institutions are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large, multi-campus universities; some are part of state university systems. For a complete list of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table 6.

Source(s):

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2019.

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
	All institutions	61,234,893	37,487,673	3,853,598	3,209,441	3,764,291	11,897,220	1,022,670
1	Johns Hopkins U., The ^a	2,004,482	1,737,261	10,346	67,600	90,648	77,460	21,167
2	U. MI-Ann Arbor	1,184,445	747,778	3,322	38,739	47,627	338,515	8,464
3	U. WI-Madison	1,029,295	545,189	96,605	11,594	131,364	208,479	36,064
4	U. WA Seattle	1,022,740	829,885	23,273	91,946	NA	43,506	34,130
5	Duke U.	983,289	514,084	27,356	234,361	90,146	113,351	3,991
6	U. CA, San Diego	943,219	580,279	34,566	67,601	102,356	111,160	47,257
7	U. CA, Los Angeles	936,995	538,521	26,341	54,216	91,173	156,331	70,413
8	U. CA, San Francisco	935,509	514,693	28,189	50,979	128,827	136,560	76,261
9	Stanford U.	839,839	593,016	23,391	61,127	80,769	79,178	2,358
10	U. PA	836,322	642,180	34,390	39,032	60,436	60,112	172
11	U. Pittsburgh main campus	822,491	594,675	12,088	10,135	22,035	183,558	0
12	Columbia U. in the City of New York	807,235	572,213	12,336	35,548	66,681	95,487	24,970
13	U. MN Twin Cities	786,074	426,359	64,719	28,403	69,713	176,789	20,091
14	PA State U. University Park and Hershey Medical Ctr.	770,449	464,750	62,905	64,323	37,607	139,497	1,367
15	U. NC Chapel Hill	755,284	545,993	9,727	26,052	56,847	116,665	0
16	OH State U.	755,194	399,942	106,213	120,101	29,209	83,390	16,339
17	Cornell U.	749,721	448,085	66,521	22,869	71,327	139,150	1,769
18	Washington U. St. Louis	695,974	468,642	19,218	36,777	46,312	90,209	34,816
19	U. CA, Berkeley	694,049	312,789	68,340	85,538	86,953	120,560	19,869
20	TX A&M U.	689,624	288,173	139,411	46,754	18,027	191,115	6,144
21	U. FL	681,548	279,649	98,597	23,426	19,754	251,640	8,482
22	U. CA, Davis	679,915	332,325	60,102	37,159	86,953	160,255	3,121
23	MA Institute of Technology	677,138	457,575	415	102,882	68,919	12,484	34,863
24	Yale U.	623,510	475,794	7,248	19,052	38,624	69,260	13,532
25	GA Institute of Technology	615,833	372,122	10,470	45,672	11,541	170,900	5,128
26	Northwestern U.	603,732	379,648	4,331	13,121	53,190	153,442	NA
27	U. TX M. D. Anderson Cancer Ctr.	599,529	206,664	176,806	50,712	81,656	83,691	0
28	U. Southern CA	592,791	408,564	10,088	44,620	32,659	96,860	0
29	U. TX Austin	589,502	350,308	24,389	56,448	37,423	116,583	4,351
30	U. AZ	586,647	308,157	31,656	19,618	23,975	176,331	26,910
31	Harvard U.	583,361	474,899	2,902	24,135	72,974	0	8,451
32	Purdue U. main campus	548,980	232,564	59,288	29,593	39,288	186,948	1,299
33	Emory U.	529,453	336,986	331	16,363	45,117	128,793	1,863
34	U. IL Urbana-Champaign	515,133	303,852	30,395	13,661	703	133,148	33,374
35	Vanderbilt U.	504,959	397,656	954	10,186	22,366	68,598	5,199
36	U. AL Birmingham, The	489,845	325,103	760	22,660	26,565	114,757	0
37	U. MD College Park	451,415	297,896	16,483	9,118	3,672	117,916	6,330
38	Baylor C. of Medicine	447,874	284,072	2,491	14,213	36,132	88,150	22,816
39	U. IA	444,034	282,465	6,004	15,670	21,767	117,704	424
40	U. Chicago	437,721	352,728	297	19,273	27,523	35,371	2,529
41	MI State U.	431,373	214,134	47,797	3,717	12,817	140,931	11,977
42	Rutgers, the State U. NJ-New Brunswick	428,432	224,894	75,346	10,988	17,870	85,848	13,486
43	U. TX Southwestern Medical Ctr. Dallas	419,220	232,027	49,817	19,616	44,843	42,634	30,283
44	Case Western Reserve U.	418,164	333,689	9,261	6,627	17,536	50,292	759
45	U. Rochester	414,655	322,048	8,993	20,266	12,038	43,308	8,002

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
46	U. Cincinnati	411,269	262,513	7,419	18,410	24,194	98,733	0
47	VA Polytechnic Institute and State U.	398,169	162,566	97,409	21,256	18,507	95,925	2,506
48	U. CO Denver and Health Sciences Ctr.	389,461	285,126	25,315	28,661	30,054	16,780	3,525
49	Scripps Research Institute, The	387,298	313,746	7,686	19,079	16,603	30,184	NA
50	U. South FL	385,029	243,017	32,548	13,862	12,959	81,294	1,349
51	U. UT	379,200	227,021	1,422	18,060	18,108	113,847	742
52	U. MD Baltimore	374,036	208,246	23,789	17,095	39,357	85,409	140
53	Mt. Sinai School of Medicine	370,666	302,770	7,597	17,230	41,562	917	590
54	NY U.	365,944	260,463	4,317	7,585	23,703	57,023	12,853
55	U. IL Chicago	362,939	232,380	9,216	5,975	23,804	91,564	0
56	CA Institute of Technology	362,172	328,522	1,347	8,138	17,513	3,706	2,946
57	NC State U.	360,795	139,096	98,382	37,097	4,431	81,667	122
58	U. KY	359,944	171,528	41,482	12,157	10,108	124,669	0
59	SUNY Albany	359,364	124,324	77,690	74,099	17,910	60,760	4,581
60	Boston U.	352,817	302,411	1,106	8,528	18,192	22,580	0
61	SUNY Buffalo	349,670	167,099	21,387	20,347	28,131	95,444	17,262
62	U. CO Boulder	349,449	292,030	2,108	10,205	16,026	29,080	0
63	Brown U.	335,838	127,087	1,302	1,730	20,620	184,440	659
64	AZ State U.	329,345	172,202	23,198	11,734	28,174	91,895	2,142
65	U. CA, Irvine	327,594	194,559	15,879	22,399	33,471	48,057	13,229
66	OR Health & Science U.	314,990	247,054	1,061	13,939	22,719	29,964	253
67	Yeshiva U.	314,240	163,399	54,093	2,508	14,762	69,649	9,829
68	WA State U.	304,352	113,452	54,698	9,369	11,821	111,895	3,117
69	U. HI Manoa	303,085	196,275	22,203	23,968	7,936	44,685	8,018
70	CO State U.	302,896	211,297	16,504	10,190	15,775	42,142	6,988
71	IN U.-Purdue U. Indianapolis	296,194	148,672	2,845	18,515	42,146	84,016	0
72	U. TN Knoxville	291,787	162,151	48,986	18,053	9,028	53,569	0
73	LA State U. and A&M C.	289,872	97,407	75,500	14,294	6,213	95,424	1,034
74	U. Miami	280,671	197,824	6,425	23,704	18,914	21,981	11,823
75	U. VA main campus	276,308	228,917	548	6,491	11,469	25,871	3,012
76	U. KS	267,961	147,598	7,641	6,936	10,764	93,396	1,626
77	Rockefeller U.	265,750	88,705	1,761	3,344	19,161	151,249	1,530
78	Wayne State U.	254,492	132,166	5,132	6,647	9,385	94,819	6,343
79	IA State U.	250,120	109,461	43,728	15,686	6,730	73,484	1,031
80	Princeton U.	242,570	150,261	1,227	9,067	12,194	65,744	4,077
81	U. TX Health Science Ctr. Houston	240,772	150,324	43,544	9,112	26,213	11,579	0
82	U. MO-Columbia	238,500	116,965	3,285	7,131	8,334	101,562	1,223
83	U. CT	237,908	132,169	10,472	9,139	18,014	67,987	127
84	FL State U.	237,864	134,794	19,135	940	5,577	77,418	0
85	U. MA Worcester	232,039	178,293	1,506	14,198	14,524	23,518	0
86	MS State U.	231,675	106,324	72,701	7,859	217	44,415	159
87	U. GA	230,803	118,862	32,852	13,124	16,498	49,467	0
88	U. of Medicine & Dentistry NJ	230,235	123,399	12,853	14,520	25,520	53,943	0
89	U. SC Columbia	229,145	125,501	1,950	6,609	16,609	78,476	NA
90	U. CA, Santa Barbara	225,730	129,457	5,223	16,967	28,506	36,561	9,016
91	Medical U. SC	224,632	131,650	338	13,087	6,322	72,042	1,193
92	Carnegie Mellon U.	222,790	179,386	2,986	19,204	4,150	13,437	3,627
93	U. OK	218,089	105,366	19,745	14,156	8,396	61,572	8,854
94	OR State U.	216,595	135,886	36,188	5,869	1,906	23,339	13,407
95	U. NM	211,771	148,216	5,601	3,776	3,462	49,850	866

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
96	U. TX Health Science Ctr. San Antonio	207,115	121,723	6,949	15,499	20,181	42,763	0
97	SUNY Stony Brook	204,728	120,146	5,522	5,535	6,239	64,930	2,356
98	VA Commonwealth U.	197,709	144,138	8,712	9,134	7,164	28,561	0
99	George Washington U.	196,917	122,357	7,262	4,427	28,315	34,446	110
100	Dartmouth C.	194,141	118,271	5,137	12,113	18,864	39,228	528
101	Wake Forest U.	192,034	159,084	5,216	15,213	6,398	5,892	231
102	Medical C. WI	191,816	121,750	195	9,207	19,077	41,587	0
103	U. NE-Lincoln	191,268	96,069	6,622	9,124	12,779	65,059	1,615
104	U. Louisville	189,090	93,260	10,967	6,084	5,960	58,753	14,066
105	U. TX Medical Branch	188,399	128,840	1,675	3,665	14,813	39,406	0
106	Woods Hole Oceanographic Institution	181,746	153,066	1,254	2,940	NA	10,746	13,740
107	IN U. Bloomington	177,520	71,208	2,697	3,981	23,240	76,394	0
108	Clemson U.	174,693	62,934	3,330	21,217	0	86,777	435
109	U. MA Amherst	169,143	89,413	4,657	9,080	7,644	52,426	5,923
110	Tulane U.	165,513	106,872	5,636	3,418	6,461	30,133	12,993
111	U. AK Fairbanks	161,986	99,657	8,780	5,731	2,537	43,956	1,325
112	KS State U.	160,679	68,560	40,094	3,522	1,343	38,539	8,621
113	Georgetown U.	159,355	120,589	1,393	4,705	18,935	13,694	39
114	NM State U.	157,872	98,399	17,937	7,745	267	25,110	8,414
115	Tufts U.	156,106	116,699	3,080	8,627	11,056	14,685	1,959
116	WV U.	154,926	79,415	10,345	5,070	1,555	58,447	94
117	U. DE	153,311	105,454	6,281	5,700	2,345	31,718	1,813
118	UT State U.	149,169	90,581	27,035	4,821	411	18,680	7,641
119	OK State U. main campus	147,094	56,998	32,289	5,802	568	51,437	0
120	Auburn U. main campus	145,115	53,971	33,586	4,177	1,234	49,245	2,902
121	U. CA, Santa Cruz	143,919	84,518	5,278	4,505	16,311	29,449	3,858
122	U. NE Medical Ctr.	138,219	80,784	4,059	6,456	14,780	32,140	0
123	MT State U. Bozeman	135,084	93,100	3,701	NA	NA	30,574	7,709
124	Uniformed Services U. of the Health Sciences	134,126	72,125	NA	NA	5,764	56,237	NA
125	TX Tech U.	133,360	35,970	13,740	10,100	11,040	62,510	0
126	U. CA, Riverside	130,288	63,127	9,499	6,484	8,565	36,104	6,509
127	U. VT	129,856	98,635	312	1,899	6,387	22,623	0
128	ND State U.	126,419	51,883	38,668	915	839	32,029	2,085
129	Temple U.	124,528	79,939	5,143	5,564	7,441	26,339	102
130	U. Houston	119,811	52,920	33,168	6,364	6,473	20,886	0
131	U. AR for Medical Sciences	119,518	72,217	4,931	3,051	0	28,184	11,135
132	Drexel U.	118,349	77,438	4,174	2,860	8,998	24,879	0
133	U. Central FL	117,985	69,331	14,042	9,485	3,633	20,750	744
134	U. NH	115,562	84,553	2,031	6,634	3,519	16,422	2,403
135	U. AR main campus	113,909	33,674	48,242	7,634	1,725	21,981	653
136	U. ME	111,282	50,163	19,673	3,835	1,184	33,834	2,593
137	U. of Notre Dame	110,369	62,152	394	1,700	11,788	34,335	0
138	FL International U.	110,271	62,580	6,617	1,330	6,081	33,449	214
139	U. MS and U. MS Medical Ctr.	110,020	71,475	1,148	1,989	4,514	26,243	4,651
140	Syracuse U.	107,024	33,796	24,717	4,788	9,546	34,151	26
141	Naval Postgraduate School	103,510	93,605	287	1,356	59	8,090	113
142	Thomas Jefferson U.	103,064	77,817	5,450	10,031	5,895	3,871	0
143	San Diego State U.	99,137	56,504	6,364	850	5,314	30,032	73

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
144	Rice U.	97,903	69,395	1,075	5,913	8,427	13,093	0
145	Old Dominion U.	97,176	34,687	4,636	3,143	1,996	52,430	284
146	U. NV, Reno	95,423	58,115	4,959	1,263	1,396	29,287	403
147	U. OR	94,107	76,378	654	2,126	4,520	10,429	NA
148	U. Dayton	93,309	73,540	11,686	4,960	341	2,663	119
149	NJ Institute of Technology	92,318	50,051	4,737	4,572	1,541	31,417	0
150	U. RI	90,016	62,981	7,071	4,194	1,160	14,226	384
151	U. ID	87,207	46,303	21,615	1,124	410	16,401	1,354
152	U. MD Baltimore County	87,156	59,448	2,195	1,981	2,597	20,935	0
153	George Mason U.	84,120	63,011	1,783	605	4,335	14,019	367
154	Rensselaer Polytechnic Institute	83,952	54,847	7,350	4,683	2,641	14,431	0
155	TX A&M U. System Health Science Ctr.	82,839	33,511	11,348	1,231	4,877	27,570	4,302
156	U. TX Dallas	82,044	30,754	17,249	6,351	7,693	19,997	0
157	GA State U.	81,015	27,073	7,201	504	6,768	39,464	5
158	Northeastern U.	79,949	59,074	1,373	4,222	2,018	13,262	0
159	U. ND	76,560	52,504	5,509	11,363	1,715	5,469	0
160	U. AL Huntsville, The	75,683	73,075	503	769	NA	1,336	0
161	Rush U.	73,398	51,304	2	10,372	4,908	6,812	0
162	U. CA Office of the President	72,542	121	22,061	0	15,598	34,632	130
163	SUNY Binghamton	72,057	20,979	3,047	3,545	171	43,720	595
164	Medical C. GA	72,015	51,727	10	2,938	4,514	12,050	776
165	U. TX Arlington	71,414	31,628	10,084	4,790	3,295	21,617	0
166	U. WI-Milwaukee	71,181	29,042	24,944	1,341	4,853	9,676	1,325
167	Brandeis U.	71,006	43,669	595	3,500	10,194	12,381	667
168	U. Toledo	70,399	38,389	7,812	3,486	2,649	18,063	0
169	Southern IL U. Carbondale	69,924	22,209	6,251	8,752	1,098	31,614	NA
170	U. LA Lafayette	69,412	12,881	12,869	13,984	527	28,986	165
171	U. TX El Paso	68,870	34,617	13,726	1,017	8,459	11,051	0
172	SD State U.	67,552	38,368	16,848	1,450	3,184	6,363	1,339
173	U. MT-Missoula, The	63,540	40,760	2,269	529	NA	16,430	3,552
174	MI Technological U.	63,471	27,676	948	5,520	242	28,979	106
175	U.S. Air Force Academy	62,097	49,711	0	142	153	10,891	1,200
176	LA State U. Health Sciences Ctr. New Orleans	59,776	46,142	1,152	2,296	1,482	5,302	3,402
177	U. MA Lowell	59,345	25,550	1,910	4,460	1,779	25,583	63
178	C. of William and Mary and VA Institute of Marine Science	57,461	27,685	2,552	2,445	4,823	19,295	661
179	Portland State U.	56,533	36,996	2,831	864	8,173	7,475	194
180	FL Atlantic U.	56,472	17,268	1,252	889	1,122	33,717	2,224
181	U. MA Boston	56,416	24,527	3,652	91	5,902	21,997	247
182	U. TX San Antonio	56,279	28,717	12,431	453	4,361	10,317	0
183	U. WY	55,319	45,323	4,215	1,930	512	2,981	358
184	FL A&M U.	53,474	45,856	5,576	2,042	NA	0	NA
185	U. Akron	52,884	12,107	3,529	1,685	4,845	28,232	2,486
186	NM Institute of Mining and Technology	51,696	42,243	1,659	1,850	0	5,567	377
187	Wichita State U.	51,524	13,751	5,626	22,618	249	9,280	0
188	TX Tech U. Health Sciences Ctr.	51,282	12,950	29,208	1,035	2,920	5,169	0
189	Boston C.	50,537	33,290	145	2,619	7,481	7,002	0
190	OH U.	50,440	18,466	2,561	3,982	0	23,579	1,852

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
191	U. Memphis, The	49,517	20,654	4,890	1,132	1,216	21,118	507
192	Wright State U.	48,575	24,785	3,931	2,039	798	17,022	0
193	St. Louis U.	46,839	33,728	90	6,473	1,987	4,561	NA
194	CUNY The City C.	46,699	32,900	4,751	6,126	NA	2,922	NA
195	CO School of Mines	44,879	29,892	931	13,961	NA	95	0
196	Jackson State U.	44,862	39,457	0	0	1,155	4,250	0
197	U. NV, Las Vegas	44,457	32,441	2,315	741	390	8,552	18
198	Eastern VA Medical School	44,420	29,291	260	2,608	12,075	186	0
199	Loyola U. Chicago	43,903	28,995	610	2,855	2,814	7,280	1,349
200	SUNY Upstate Medical U.	43,824	27,959	3,388	2,337	2,794	5,794	1,552
201	U. MD Ctr. for Environmental Science	42,670	12,123	5,118	0	NA	21,123	4,306
202	MO U. of Science and Technology	42,263	28,239	287	3,549	473	9,499	216
203	U. Southern MS	42,059	37,054	2,056	1,459	446	786	258
204	U. AL, The	40,762	26,364	3,443	2,735	103	7,849	268
205	Howard U.	40,080	33,017	142	938	1,310	4,673	0
206	American U.	39,747	8,841	NA	52	6,005	24,849	NA
207	U. PR Medical Sciences Campus	39,134	29,813	1,045	2,346	NA	5,930	0
208	CUNY Hunter C.	38,900	18,498	2,919	104	4,771	12,608	0
209	U. North TX Health Science Ctr.	38,862	25,847	1,317	1,932	1,486	7,968	312
210	Rochester Institute of Technology	38,663	23,254	989	4,982	880	8,558	0
211	San Jose State U.	38,241	24,292	10,077	449	645	2,778	0
212	Lehigh U.	37,332	23,721	6,804	2,400	817	3,545	45
213	IL Institute of Technology	36,554	28,349	1,401	3,030	1,358	2,416	0
214	Loma Linda U.	35,990	29,284	1,290	2,050	1,462	1,767	137
215	Stevens Institute of Technology	35,544	29,370	1,228	536	551	3,419	440
216	U. South AL	35,500	14,730	561	1,896	406	17,907	0
217	NC Agricultural and Technical State U.	35,297	23,883	105	62	53	11,190	4
218	U. New Orleans	35,021	19,244	5,681	1,996	488	7,600	12
219	Desert Research Institute	34,367	28,307	1,411	474	2,150	2,025	0
220	Cleveland State U.	34,235	25,024	2,368	2,326	2,231	2,279	7
221	Brigham Young U.	32,997	22,115	1,716	3,638	876	4,494	158
222	SUNY Health Science Ctr. Brooklyn	32,512	25,023	408	1,749	1,193	3,720	419
223	U. of the VI	32,350	28,369	1,887	0	0	0	2,094
224	U. NC Charlotte	31,814	17,284	3,332	6,519	NA	4,679	0
225	Southern IL U. Edwardsville	31,781	4,192	2,521	901	430	23,737	0
226	U. North TX	31,496	17,511	678	742	1,233	11,326	6
227	Air Force Institute of Technology	31,259	15,474	89	269	52	15,375	0
228	LA State U. Medical Ctr. Shreveport	30,817	13,890	113	2,278	5,427	9,109	0
229	U. SD	30,616	16,467	1,061	364	381	12,343	0
230	TX State U.-San Marcos	30,560	8,904	5,646	541	4,111	11,358	0
231	U. PR Rio Piedras	30,515	21,717	123	16	20	8,373	266
232	AL A&M U.	30,497	22,154	1,601	330	180	4,988	1,244
233	Morehouse School of Medicine	30,385 i	26,559 i	602 i	1,033 i	33 i	2,158 i	0 i
234	U. MO-Kansas City	30,163	16,391	1,645	560	1,705	9,553	309
235	CA State U., Northridge	29,469	17,213	6,685	119	331	5,111	10
236	Northern AZ U.	28,803	15,070	5,708	590	1,651	5,784	0
237	SD School of Mines and Technology	28,572	25,172	1,248	165	NA	1,488	499
238	NY Medical C.	28,400	21,095	749	3,720	1,992	364	480
239	Rutgers, the State U. NJ-Newark	27,745	12,631	5,345	437	2,982	5,300	1,050

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
240	Creighton U.	27,700	11,850	3,450	0	8,450	3,500	450
241	Mercer U.	27,298	18,778	384	4,652	134	3,117	233
242	Northern IL U.	27,036	17,334	7	1,109	0	8,586	0
243	Meharry Medical C.	27,001	24,302	0	0	1,545	1,154	0
244	SUNY C. of Environmental Science and Forestry	26,916	8,907	2,396	1,908	692	12,312	701
245	Miami U.	26,521	13,591	1,733	788	347	9,506	556
246	U. PR Mayaguez	26,475	12,735	726	1,555	2,615	8,811	33
247	Western MI U.	26,391	19,738	719	1,744	1,649	1,869	672
248	Kent State U.	26,331	14,586	3,667	311	258	7,081	428
249	LA Tech U.	26,020	10,806	2,527	298	4	12,385	0
250	U. MA Dartmouth	25,725	12,236	657	633	392	11,807	0
251	San Francisco State U.	25,615	15,601	3,172	258	1,938	4,646	0
252	Marshall U.	24,501	18,218	1,385	151	341	4,158	248
253	East Carolina U.	23,995	16,113	711	2,228	979	3,964	0
254	U. Tulsa	23,387	7,126	661	8,476	59	7,065	0
255	U. NC Wilmington	23,143	14,364	1,127	671	721	6,260	0
256	Albany Medical C.	22,953	15,758	333	1,485	2,051	3,326	0
257	U. NC Greensboro	22,436	19,477	462	825	463	1,209	0
258	U.S. Military Academy	22,171	22,146	0	25	0	0	0
259	Charles R. Drew U. of Medicine and Science	22,152	20,430	NA	NA	NA	1,722	NA
260	CA State U., Fullerton	21,776	13,651	2,636	333	1,091	4,065	0
261	U. CA, Merced	21,591	9,392	6,589	181	487	3,819	1,123
262	Catholic U. America, The	21,454	15,878	0	1,365	503	3,708	0
263	U. MN Duluth	21,150	6,441	4,419	935	354	8,877	124
264	ID State U.	20,495	14,645	527	1,430	993	2,900	0
265	Ball State U.	20,477	3,988	685	383	4,386	11,016	19
266	CA Polytechnic State U., San Luis Obispo	19,732	11,637	3,351	559	2,062	2,091	32
267	Fordham U.	19,289	4,132	388	0	0	13,623	1,146
268	Southern Methodist U.	18,742	13,312	167	457	813	3,993	0
269	Boise State U.	18,731	14,614	455	168	448	3,046	0
270	Worcester Polytechnic Institute	18,613	13,582	212	957	366	3,496	0
271	Clarkson U.	18,584	9,573	1,963	2,703	0	4,345	0
272	IL State U.	18,417	5,442	369	262	629	11,715	0
273	U. West FL	17,757	11,038	4,245	115	606	1,675	78
274	TX A&M U.-Kingsville	17,378	7,088	4,548	487	2,504	2,751	0
275	TX A&M U.-Corpus Christi	17,266	7,869	3,885	119	2,703	2,634	56
276	Teachers C., Columbia U.	17,167	6,533	192	7,346	2,898	0	198
277	CUNY Queens C.	16,845	13,642	1,405	0	1,069	709	20
278	TN Technological U.	16,754	7,490	6,151	54	162	2,672	225
279	U. AK Anchorage	16,709	9,368	1,292	164	637	5,202	46
280	U. Southern ME	16,358	9,137	2,492	24	2,306	2,399	0
281	AL State U.	16,340	13,340	0	0	0	3,000	0
282	Duquesne U.	15,804	5,904	1,176	1,037	1,306	6,381	0
283	U. Denver	15,748	13,364	255	835	439	799	56
284	Tuskegee U.	15,581	12,309	1,620	0	0	245	1,407
285	CA State U., Long Beach	15,494	12,731	1,358	1,048	341	16	0
286	CA State U., Sacramento	15,207	5,829	4,487	520	899	3,444	28
287	DE State U.	15,200	10,154	428	41	36	4,541	0

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
288	U. HI Hilo	14,857	12,265	1,466	347	53	331	395
289	U. MO-St. Louis	14,628	7,151	273	36	619	6,417	132
290	Hampton U.	14,455	14,455	0	0	0	0	NA
291	Marquette U.	14,310	9,381	182	453	1,832	2,462	0
292	C. Charleston	14,218	11,610	1,282	170	1,113	0	43
293	Eastern MI U.	14,133	9,088	644	776	593	3,032	0
294	Purdue U. Calumet	14,014	6,127	1,030	2,260	201	4,396	0
295	FL Gulf Coast U.	13,906	9,542	2,094	154	2,044	72	0
296	Oakland U.	12,856	7,130	5	509	663	4,531	18
297	Morgan State U.	12,804	10,039	1,328	1,253	184	0	0
298	Prairie View A&M U.	12,565	8,623	2,986	126	27	799	4
299	TN State U.	12,432	7,414	793	592	33	3,600	0
300	Rosalind Franklin U. of Medicine and Science	12,426	8,350	0	329	1,529	2,218	0
301	Embry-Riddle Aeronautical U.	12,189	8,241	1,282	1,481	0	1,185	0
302	FL Institute of Technology	12,054	9,175	1,019	1,831	NA	0	29
303	Fayetteville State U.	11,865	10,844	676	1	344	0	0
304	CUNY Graduate Ctr.	11,562	4,901	742	0	3,863	112	1,944
305	Villanova U.	11,433 i	6,390 i	3,218 i	969 i	856 i	0 i	0 i
306	AR State U. main campus	11,115	6,194	3,920	96	91	814	0
307	U.S. Naval Academy	11,093	10,750	0	165	17	156	5
308	U. AR Little Rock	11,007	7,571	1,793	163	209	1,271	0
309	Baylor U.	10,925	2,947	261	521	1,373	5,792	31
310	Northeastern OH Universities C. of Medicine	10,819	4,009	560	40	1,088	5,121	1
311	Tarleton State U.	10,763	6,379	3,519	246	107	512	0
312	U. TN Chattanooga	10,749	4,866	880	156	997	3,850	0
313	Polytechnic U.	10,601	5,729	1,439	2,671	NA	762	NA
314	Western WA U.	10,571	4,594	811	96	436	4,634	0
315	Alcorn State U.	10,280	9,256	0	50	0	974	0
316	Nova Southeastern U.	10,116	5,718	666	891	365	2,476	0
317	Western KY U.	9,943	6,866	1,059	348	381	1,289	0
318	East TN State U.	9,869	6,272	1,662	612	1,143	180	0
319	Humboldt State U.	9,845	3,024	2,639	913	988	2,281	0
320	Wheeling Jesuit U.	9,398	8,768	196	51	325	0	58
321	Fairfield U.	9,294	2,681	170	76	0	5,825	542
322	Stephen F. Austin State U.	9,127	5,530	768	139	535	2,155	0
323	U. CO Colorado Springs	9,088	6,699	456	521	176	1,236	0
324	U. NE Omaha	8,951	6,014	651	114	651	1,521	0
325	Ponce School of Medicine	8,934	7,569	517	848	NA	0	NA
326	CA State U., Fresno	8,698	3,424	2,743	208	381	1,942	0
327	U. TX Pan American	8,693	5,544	1,725	376	574	474	0
328	U. MD Eastern Shore	8,692	8,583	87	0	2	0	20
329	IN U.-Purdue U. Ft. Wayne	8,523	1,797	1,052	166	784	4,724	0
330	Clark Atlanta U.	8,515	7,229	18	134	68	1,066	0
331	Lincoln U. (Jefferson City, MO)	8,475	5,984	2,491	0	0	0	0
332	Dillard U.	8,425	7,096	1,329	0	0	0	0
333	Wellesley C.	8,422	3,677	442	163	4,140	0	0
334	Wesleyan U.	8,397	4,496	72	311	552	2,966	0
335	U. AR Pine Bluff	8,343	3,947	279	0	110	4,007	0

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
336	Bowling Green State U.	8,124	4,963	1,861	113	285	871	31
337	U. North FL	8,041	4,636	429	68	283	2,625	0
338	Xavier U. LA	8,029	5,669	1,465	0	284	611	0
339	Morehouse C.	7,857	7,857	0	0	0	0	NA
340	MO State U.	7,770	6,071	237	491	971	0	0
341	CA State U., Los Angeles	7,714	7,234	193	0	160	127	0
342	Fisk U.	7,700	7,686	0	0	0	14	0
343	Gallaudet U.	7,652	5,522	0	0	0	2,130	0
344	Sam Houston State U.	7,555	5,066	1,479	NA	NA	1,010	NA
345	Central MI U.	7,483	2,536	1,330	33	113	3,389	82
346	Bryn Mawr C.	7,476	1,301	185	7	90	5,857	36
347	VA State U.	7,466	5,552	72	5	71	1,761	5
348	MT Tech of the U. MT	7,424	5,321	1,474	629	NA	0	0
349	West TX A&M U.	7,346	2,100	205	1,001	442	3,598	NA
350	SC State U.	7,167	6,334	308	346	179	0	NA
351	Universidad Central del Caribe	7,122	6,504	31	0	0	587	0
352	Claremont Graduate U.	7,116	5,888	0	0	263	965	0
353	Clark U.	7,111	3,243	0	194	2,242	1,432	0
354	James Madison U.	7,038	5,563	112	0	NA	235	1,128
355	TX Southern U.	7,003	5,240	1,551	0	212	0	NA
356	U. TX Brownsville	6,886	5,640	737	0	40	469	0
357	Kettering U.	6,880	4,477	389	1,736	278	0	0
358	NC Central U.	6,870	6,870	NA	NA	NA	0	NA
359	Southern U. Baton Rouge	6,865	5,920	NA	0	0	0	945
360	CUNY Brooklyn C.	6,846	5,358	0	764	0	724	NA
361	U. MI-Dearborn	6,779	2,932	963	608	98	2,095	83
362	U. WI-Stevens Point	6,766	4,456	214	147	29	955	965
363	Universidad del Turabo	6,620	691	0	0	0	5,929	0
364	CA State Polytechnic U., Pomona	6,493	2,563	844	487	186	2,413	0
365	Rowan U.	6,434	4,301	1,855	278	NA	0	NA
366	U. of the Pacific	6,120	3,135	293	2,046	646	0	0
367	Norfolk State U.	5,944	5,413	21	NA	NA	0	510
368	CUNY John Jay C. of Criminal Justice	5,916	3,418	52	0	1,790	656	0
369	U. WI-Superior	5,890	5,197	0	245	34	156	258
370	Lamar U.	5,829	4,377	148	203	145	956	0
371	CA State U., San Marcos	5,788	4,106	714	0	787	181	0
372	Claremont McKenna C.	5,725	1,130	18	0	298	4,279	0
373	U. TX Tyler	5,679	3,378	2,021	280	0	0	0
374	Elizabeth City State U.	5,576	5,552	14	0	10	0	0
375	U. GU	5,555	4,962	94	481	18	0	0
376	Bucknell U.	5,456	2,745	149	121	571	1,756	114
377	Ft. Valley State U.	5,310	4,586	0	0	0	724	0
378	TX Christian U.	5,306	3,373	229	1,568	NA	136	NA
379	CA State U., Monterey Bay	5,305	3,167	1,551	0	146	441	0
380	New School, The	5,178	1,670	30	58	3,420	0	0
381	Central WA U.	5,159	4,038	378	140	24	579	0
382	Grand Valley State U.	5,044	1,134	368	206	879	2,095	362
383	U. DC	5,012	1,946	3,066	0	0	0	0
384	Calvin C.	5,010	2,084	2	173	289	2,364	98
385	KY State U.	4,912	3,501	1,341	0	58	12	0

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
386	DePaul U.	4,889	3,896	31	29	373	560	0
387	Middle TN State U.	4,793	2,651	134	0	77	1,881	50
388	Palmer C. of Chiropractic	4,693	3,009	0	0	5	1,679	0
389	Williams C.	4,691	2,330	0	0	0	2,361	0
390	Smith C.	4,613	2,843	0	12	905	853	0
391	Carleton C.	4,575	1,803	21	0	1,179	1,572	0
392	Loyola Marymount U.	4,557	1,731	0	5	611	2,210	0
393	Alfred U.	4,524	1,687	1,464	877	0	496	0
394	Youngstown State U.	4,523	2,067	2,048	138	0	270	0
395	Langston U.	4,492	3,313	1,179	0	0	0	0
396	U. South FL St. Petersburg	4,425	2,570	0	0	129	1,720	6
397	OK State U. Ctr. for Health Sciences	4,398	817	105	229	0	3,247	0
398	Macalester C.	4,389	1,075	0	0	294	3,020	0
399	U. Baltimore	4,229	1,812	1,278	8	1,112	19	0
400	St. Cloud State U.	4,184	1,260	290	523	432	1,679	0
401	U. WI-La Crosse	4,141	2,150	738	625	3	241	384
402	U. Richmond	4,052	2,138	9	0	1,065	825	15
403	Seton Hall U.	4,003	2,206	660	485	652	0	0
404	Lawrence Technological U.	3,952	3,144	313	114	305	76	0
405	Milwaukee School of Engineering	3,944	1,177	0	1,881	332	554	0
406	Southern CT State U.	3,840	1,459	1,567	41	773	0	0
407	MN State U. Mankato	3,837	2,051	46	2	139	490	1,109
408	Chapman U.	3,830	1,871	469	79	1,076	330	5
409	Santa Clara U.	3,816	3,494	164	69	89	0	0
410	Franklin & Marshall C.	3,770	1,857	271	300	483	859	0
411	WV State U.	3,770	2,759	1,011	0	0	0	0
412	GA Southern U.	3,704	2,077	91	139	347	1,050	0
413	Amherst C.	3,628	1,102	4	2	595	1,925	0
414	Midwestern U. (Downers Grove, IL)	3,626	315	0	185	81	3,045	NA
415	Haverford C.	3,620	2,715	0	0	217	688	0
416	Shaw U.	3,600 i	3,159 i	169 i	0 i	0 i	272 i	0 i
417	Hope C.	3,596	2,523	0	0	754	319	0
418	CUNY Herbert H. Lehman C.	3,579 i	2,750 i	5 i	558 i	0 i	266 i	0 i
419	Rutgers, the State U. NJ-Camden	3,574	2,001	279	12	308	752	222
420	U. New England	3,560	2,829	21	121	589	0	0
421	Eastern KY U.	3,531	2,638	189	0	0	704	0
422	SUNY C. of Optometry	3,529	2,829	0	203	131	366	0
423	Salisbury U.	3,503	1,823	937	NA	361	382	NA
424	Long Island U.	3,406 i	2,483 i	151 i	364 i	122 i	286 i	0 i
425	Murray State U.	3,396	2,074	92	48	74	1,108	0
426	Barnard C.	3,353	2,754	76	0	494	29	0
427	CUNY C. Staten Island	3,290	952	1,072	719	352	191	4
428	Eastern WA U.	3,266	46	2,377	76	568	199	0
429	PA State U. Erie, The Behrend C.	3,265	887	1,322	24	294	738	0
430	Clafin U.	3,252	3,226	15	11	0	0	0
431	Central State U.	3,233	2,544	227	462	0	0	0
432	Harvey Mudd C.	3,214	2,049	0	63	257	845	0
433	Wabash C.	3,200	208	0	0	2,889	83	20
434	Hamilton C.	3,192	1,077	206	26	1,417	461	5
435	Spelman C.	3,181	2,740	0	280	0	161	0

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
436	Pace U.	3,085	627	0	44	330	2,084	0
437	Albany C. of Pharmacy	3,074	1,380	184	1,198	0	312	0
438	U. Northern IA	3,064	1,460	890	5	9	700	0
439	Towson U.	3,052	1,806	879	93	95	172	7
440	West Chester U. PA	3,052 i	1,612 i	694 i	128 i	618 i	0 i	0 i
441	Sul Ross State U.	3,039	1,595	537	41	362	504	0
442	Swarthmore C.	2,984	913	17	0	914	1,140	0
443	Tougaloo C.	2,978	2,978	0	0	0	0	0
444	U. San Diego	2,934	1,352	117	71	259	887	248
445	Pomona C.	2,924	1,048	0	0	748	1,052	76
446	St. Francis U.	2,923	2,923	0	0	0	0	0
447	St. Joseph's U.	2,918	1,368	288	0	947	315	0
448	Appalachian State U.	2,898	1,813	253	94	253	485	0
449	U. LA Monroe	2,884	1,470	429	195	299	491	0
450	Black Hills State U.	2,883	2,434	229	6	40	174	0
451	CA State U., Chico	2,881	1,502	777	238	106	258	0
452	Colgate U.	2,851	1,519	2	20	203	1,107	0
453	Skidmore C.	2,850	1,872	0	428	0	550	0
454	Mt. Holyoke C.	2,788	1,362	0	0	931	495	0
455	Lewis & Clark C.	2,753	843	0	0	1,080	830	0
456	CA State U., Dominguez Hills	2,743	2,658	64	19	2	0	0
457	PA State U. Harrisburg	2,734	963	824	97	629	221	0
458	Armstrong Atlantic State U.	2,681	2,681	0	0	0	0	0
459	TX A&M U.-Commerce	2,679	1,362	937	17	363	0	NA
460	Pepperdine U.	2,672	933	808	44	247	640	0
461	U. NC Asheville	2,671	1,367	606	97	277	324	0
462	U. Central AR	2,670	1,658	389	3	0	588	32
463	Bowdoin C.	2,627	1,815	0	53	171	588	0
464	CUNY Baruch C.	2,616	1,010	76	0	1,045	485	0
465	U. Northern CO	2,607	2,082	88	10	47	380	0
466	Nicholls State U.	2,590	946	661	0	333	650	0
467	Southeastern LA U.	2,561	1,161	639	0	84	677	0
468	Hofstra U.	2,552	2,206	169	2	77	98	0
469	TX A&M International U.	2,428	1,623	164	0	368	247	26
470	Northwest Indian C.	2,426	1,943	57	0	60	366	0
471	Coastal Carolina U.	2,404	1,533	433	332	22	84	0
472	Western Carolina U.	2,376	1,296	211	18	377	474	0
473	Northern KY U.	2,316	1,476	93	84	90	573	0
474	Furman U.	2,311	1,332	0	0	540	374	65
475	Middlebury C.	2,292	2,245	0	0	47	0	0
476	Occidental C.	2,289	665	118	261	1,245	0	0
477	TX Woman's U.	2,271	822	471	5	271	702	0
478	Montclair State U.	2,255	1,876	27	19	129	204	0
479	Western OR U.	2,255	1,652	262	0	89	252	0
480	Monmouth U.	2,195	2,190	5	0	0	0	0
481	U. PR Humacao	2,161 i	2,144 i	0 i	0 i	0 i	17 i	0 i
482	Morehead State U.	2,145	1,528	129	0	113	375	0
483	U. San Francisco	2,124	428	129	0	262	1,289	16
484	Dickinson C.	2,109	602	71	0	677	759	0
485	U. IL Springfield	2,096	436	403	0	62	868	327

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
486	Lafayette C.	2,089	1,223	98	73	106	589	0
487	CA State U., Bakersfield	2,083	637	936	158	93	259	0
488	Grinnell C.	2,069	1,161	2	5	29	872	0
489	Willamette U.	2,059	666	33	0	0	1,360	0
490	Mercyhurst C.	2,040	854	362	91	400	284	49
491	Oberlin C.	1,985	1,359	0	62	238	326	0
492	Union C. (Schenectady, NY)	1,984	1,427	12	26	461	58	0
493	Roger Williams U.	1,967	1,574	15	29	52	297	0
494	U. of the Sciences Philadelphia	1,964	984	360	620	0	0	0
495	U. WI-Eau Claire	1,950	1,320	230	68	46	101	185
496	SUNY C. Buffalo	1,935	1,293	53	18	242	329	0
497	Reed C.	1,904	796	0	0	485	623	0
498	Universidad Metropolitana	1,888	1,282	0	0	0	606	0
499	Agnes Scott C.	1,884	1,328	0	0	13	528	15
500	Trinity C. (Hartford, CT)	1,875	1,026	9	10	618	212	0
501	Savannah State U.	1,874	1,774	86	0	14	0	0
502	Kennesaw State U.	1,854	1,246	22	7	381	198	0
503	CA State U., San Bernardino	1,851	1,412	151	154	13	89	32
504	Pacific U.	1,849	845	128	380	494	0	2
505	Mesa State C.	1,799	1,064	11	95	418	211	0
506	U. Central OK	1,786	1,059	226	16	405	80	NA
507	Western U. of Health Sciences	1,786	885	139	519	74	169	0
508	NY Institute of Technology	1,785	250	212	275	83	965	0
509	Colby C.	1,782	1,105	0	0	199	478	0
510	Northwestern Health Sciences U.	1,779	1,467	0	0	0	312	0
511	Pittsburg State U.	1,759	999	10	559	191	0	0
512	U. AK Southeast	1,759	1,222	159	0	88	290	0
513	U. West GA	1,749	761	398	522	0	68	0
514	St. Bonaventure U.	1,727	767	27	0	0	352	581
515	Mills C.	1,679	1,095	0	0	537	47	0
516	Rider U.	1,671	407	0	1	55	1,208	0
517	SUNY C. Plattsburgh	1,664	1,187	159	0	23	267	28
518	U. NE Kearney	1,655	289	782	21	30	533	0
519	Arcadia U.	1,649	1,206	134	0	309	0	0
520	West Liberty State C.	1,645	550	600	0	385	110	0
521	St. John's U. (Jamaica, NY)	1,643	1,274	9	241	72	47	0
522	Daemen C.	1,613	426	746	132	232	77	0
523	Touro U.-CA	1,600	999	0	0	222	379	0
524	Chicago State U.	1,598	1,598	0	0	0	0	0
525	Bates C.	1,590	971	0	4	137	478	0
526	St. Olaf C.	1,574	1,247	35	40	170	82	0
527	Bastyr U.	1,572	1,211	0	135	0	226	0
528	U. WI-Oshkosh	1,556	832	174	46	59	267	178
529	IN State U.	1,541	990	70	390	17	62	12
530	Benedict C.	1,533	1,473	60	0	0	0	0
531	CT C.	1,532	954	45	0	3	530	0
532	NM Highlands U.	1,529	970	59	500	0	0	0
533	Davidson C.	1,493	1,153	48	21	265	6	0
534	Rose-Hulman Institute of Technology	1,482	1,159	0	15	198	110	0
535	Northwestern State U.	1,464	635	464	0	0	247	118

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
536	New England C. of Optometry	1,457	726	0	347	53	315	16
537	Trinity U.	1,446	1,023	0	29	365	14	15
538	Hobart and William Smith Colleges	1,434	1,118	201	13	98	4	0
539	Lincoln U. of the Commonwealth of PA	1,425	1,114	307	4	0	0	0
540	U. TX of the Permian Basin	1,417	677	1	0	0	96	643
541	Whitman C.	1,415	1,080	0	0	335	0	0
542	SUNY C. of A&T Cobleskill	1,414	1,382	22	6	0	4	0
543	Roanoke C.	1,379 i	107 i	0 i	0 i	0 i	1,272 i	0 i
544	Indiana U. PA	1,376	660	280	0	0	436	0
545	SUNY C. Geneseo	1,373	755	9	60	36	513	0
546	Universidad del Este	1,372	1,139	0	0	0	233	0
547	LA State U. Shreveport	1,359	849	31	27	178	274	0
548	Salus U.	1,359	1,261	69	29	0	0	0
549	Purdue U. North Central	1,349	639	50	3	42	615	0
550	U. of St. Thomas (St. Paul, MN)	1,330	842	78	88	NA	204	118
551	Washington and Jefferson C.	1,327	1,188	0	0	139	0	0
552	U. Redlands	1,317	1,208	75	0	0	34	0
553	CA State U., East Bay	1,312	643	551	0	118	0	0
554	La Salle U.	1,298	246	0	86	10	956	0
555	Vassar C.	1,280	1,280	0	0	0	0	0
556	U. Houston-Clear Lake	1,279	301	766	12	93	107	0
557	Philadelphia C. of Osteopathic Medicine	1,278	812	31	0	279	156	0
558	C. of the Holy Cross	1,275	904	0	0	371	0	0
559	Seattle U.	1,259 i	263 i	10 i	18 i	398 i	570 i	0 i
560	A. T. Still U. of Health Sciences	1,253	116	0	24	142	971	0
561	Plymouth State U.	1,253 i	1,053 i	48 i	0 i	127 i	25 i	0 i
562	Gonzaga U.	1,249	609	0	2	571	67	0
563	Western IL U.	1,221	658	398	113	0	19	33
564	Governors State U.	1,220	1,124	24	0	72	0	0
565	U. WI-Green Bay	1,219	778	71	179	16	134	41
566	U. Portland	1,205	335	174	7	660	29	0
567	Philadelphia U.	1,200	968	232	0	0	0	0
568	SUNY C. Old Westbury	1,197 i	634 i	0 i	223 i	16 i	324 i	0 i
569	Andrews U.	1,195	280	78	0	199	638	NA
570	U. TN Martin	1,164	0	28	6	40	1,090	0
571	John Carroll U.	1,154	1,036	0	118	0	0	0
572	Bradley U.	1,151	512	0	304	0	335	0
573	U. Detroit Mercy	1,148	633	63	124	25	195	108
574	U. Hartford	1,137	820	0	71	1	245	0
575	Christopher Newport U.	1,110	1,049	8	46	7	0	0
576	Niagara U.	1,090	162	334	3	106	485	0
577	Angelo State U.	1,088	236	570	0	82	200	0
578	Ithaca C.	1,077	617	76	0	120	264	0
579	McNeese State U.	1,077	433	174	8	33	429	0
580	IN U. South Bend	1,070	282	1	3	262	522	0
581	Siena C.	1,061	1,045	0	0	16	0	0
582	William Paterson U. NJ	1,051	105	44	20	1	881	0
583	Drake U.	1,033	456	79	19	243	236	NA
584	MS Valley State U.	1,029	993	NA	NA	NA	36	NA
585	U. Houston-Downtown	1,013	908	6	79	0	20	0

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
586	Western States Chiropractic C.	996	866	0	0	0	130	0
587	Grambling State U.	993	993	0	0	0	0	0
588	C. Wooster	988	249	18	0	261	446	14
589	Weber State U.	983	355	247	378	3	0	0
590	Haskell Indian Nations U.	978	922	0	0	56	0	0
591	National U. of Health Sciences	950	754	0	23	27	146	0
592	Washington and Lee U.	939	646	0	268	25	0	0
593	U. PR Cayey	927	710	0	0	0	217	0
594	Providence C.	917	857	0	24	32	4	0
595	Augustana C. (Sioux Falls, SD)	912	889	0	6	17	0	0
596	Northern MI U.	910	287	0	0	47	576	0
597	Evergreen State C.	902	886	7	0	9	0	0
598	Barry U.	897	897	0	0	0	0	0
599	Truman State U.	882	605	18	2	37	220	0
600	Salish Kootenai C.	880	475	0	0	405	0	0
601	Saginaw Valley State U.	873	77	0	144	0	600	52
602	U. WA Tacoma	872	573	92	76	NA	30	101
603	Sonoma State U.	858	690	32	0	25	111	0
604	Des Moines U.	855	62	0	1	0	731	61
605	C. NJ, The	850	461	105	0	263	21	0
606	VA Military Institute	849	451	86	37	25	250	0
607	PA State U. Beaver	848	786	0	0	0	62	0
608	SUNY C. Brockport	831	521	52	8	96	143	11
609	Southern OR U.	826	639	105	22	0	60	0
610	Gettysburg C.	814	524	0	0	116	160	14
611	Rhodes C.	804	519	242	16	27	0	0
612	Minot State U.	795	795	0	0	0	0	0
613	Valparaiso U.	791	505	21	19	48	198	0
614	Lawrence U.	784	703	0	0	0	81	0
615	SUNY C. Oswego	783	644	12	39	1	41	46
616	Central CT State U.	776	366	8	0	8	394	0
617	LeTourneau U.	773	273	0	63	363	74	0
618	Wilberforce U.	760	737	0	0	23	0	0
619	Kalamazoo C.	755	254	0	0	245	256	0
620	Eastern IL U.	751	450	95	20	45	141	0
621	Albany State U.	740	396	344	0	0	0	0
622	U. South FL Sarasota-Manatee	732	106	0	0	15	608	3
623	Cheyney U. PA	725	255	470	0	0	0	0
624	Millsaps C.	722	433	NA	7	NA	282	NA
625	U. WI-Whitewater	718	411	152	17	1	83	54
626	SUNY Institute of Technology at Utica-Rome	713	695	0	0	0	18	0
627	Northeastern IL U.	711	448	0	0	19	244	0
628	Le Moyne-Owen C.	708	610	98	0	0	0	0
629	IL Wesleyan U.	707	360	NA	NA	NA	347	NA
630	Northeastern State U.	707	451	56	170	0	30	0
631	U. MI-Flint	693	227	0	0	5	450	11
632	Kansas City U. of Medicine and Biosciences	685	556	30	0	65	34	0
633	Seattle Pacific U.	684	114	19	2	180	218	151
634	U. WI-Platteville	681	46	473	11	12	116	23

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
635	Radford U.	680	292	28	67	21	272	0
636	U.S. Coast Guard Academy	680	672	0	0	0	8	0
637	U. MN Morris	672	245	41	56	27	303	0
638	CO C.	671	473	4	0	0	194	0
639	Marist C.	671	8	290	110	11	231	21
640	PA State U. Altoona	671	267	99	140	25	140	0
641	Abilene Christian U.	662	537	0	0	37	88	0
642	New C. FL	660	514	0	11	26	109	0
643	CUNY Medgar Evers C.	658	392	0	211	0	55	0
644	Hendrix C.	656	466	12	4	50	124	0
645	Loyola C.	648	555	27	0	66	0	0
646	Mt. St. Mary's C. (Los Angeles, CA)	647	647	0	0	0	0	0
647	St. Michael's C.	644	487	0	0	0	157	0
648	U. South FL Polytechnic	642	323	14	22	0	283	0
649	St. John's U. (Collegeville, MN)	640	0	0	0	0	640	0
650	Sinte Gleska U.	630	537	0	0	0	93	0
651	U. WA Bothell	630	446	28	89	NA	13	54
652	Denison U.	620 i	469 i	0 i	0 i	0 i	151 i	0 i
653	Concordia C.	617	301	0	0	47	269	0
654	MT State U. Billings	598	327	127	73	0	71	0
655	Loyola U. New Orleans	595	260	142	0	11	182	0
656	WV School of Osteopathic Medicine	594	22	0	0	0	572	0
657	Bridgewater State C.	587	279	177	0	5	126	0
658	Wiley C.	575	362	198	0	15	0	0
659	Hampshire C.	569	533	0	0	0	36	0
660	U. WI-Parkside	541	127	139	87	0	157	31
661	Ursinus C.	540	413	120	1	6	0	0
662	Lake Forest C.	533	154	0	0	21	358	0
663	SUNY C. Cortland	527	153	4	9	249	109	3
664	Millersville U. PA	523	307	35	24	61	96	0
665	Frostburg State U.	521	372	121	18	10	0	0
666	Elizabethtown C.	514	394	120	0	0	0	0
667	SUNY Fredonia	513	111	103	15	0	284	0
668	Juniata C.	511	150	0	0	247	114	0
669	SUNY C. Potsdam	511	386	30	24	19	52	0
670	Allegheny C.	505	197	17	0	70	221	0
671	DePauw U.	503	192	0	1	4	306	0
672	Manhattan C.	498	166	302	12	18	0	0
673	St. Mary's U. (San Antonio, TX)	495	20	0	0	0	475	0
674	Muhlenberg C.	488	302	0	20	30	136	0
675	Goucher C.	485	322	0	0	163	0	0
676	U. VA's C. Wise, The	481	76	244	0	0	161	0
677	AR Tech U.	477 i	250 i	45 i	17 i	6 i	159 i	0 i
678	Augustana C. (Rock Island, IL)	465	160	3	18	0	284	0
679	Mercy C.	464	426	0	0	6	32	0
680	U. SC Beaufort	462	338	99	0	6	19	0
681	U. Puget Sound	461	166	0	12	144	139	0
682	Coe C.	457	322	15	17	4	99	0
683	U. WI-River Falls	441	134	77	18	18	174	20
684	Simmons C.	440	181	0	0	207	10	42

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
685	Southern Polytechnic State U.	435	428	0	6	1	0	0
686	AK Pacific U.	434	283	31	120	0	0	0
687	Southwestern OK State U.	428	333	41	0	0	54	0
688	Pacific Lutheran U.	425	169	0	0	125	131	0
689	Wilkes U.	420	345	61	0	14	0	0
690	Kenyon C.	414	413	0	0	0	1	0
691	CO State U. Pueblo	413	364	5	0	44	0	0
692	IN U. Southeast	408	12	0	0	11	385	0
693	U. NC Pembroke	408	210	124	0	74	0	0
694	Southern U. New Orleans	402	369	0	0	0	33	0
695	Jacksonville State U.	398	133	0	153	0	112	0
696	Ft. Lewis C.	392	340	17	0	25	10	0
697	U. WI-Stout	388	148	50	5	0	173	12
698	Fuller Theological Seminary	384	0	2	0	107	42	233
699	Winona State U.	375	141	163	37	2	32	0
700	Cooper Union, The	371	194	0	54	49	74	0
701	Adelphi U.	360	290	0	0	0	70	0
702	Auburn U. Montgomery	351	174	11	0	0	166	0
703	Midwestern State U.	348	10	4	9	243	82	0
704	Pitzer C.	347	36	0	0	122	189	0
705	Luther C.	342	102	82	2	16	140	0
706	St. Mary's C. MD	342	233	0	0	95	14	0
707	U. SC Aiken	337	122	136	0	18	61	0
708	SUNY C. Oneonta	336	112	124	0	40	60	0
709	Jacksonville U.	335	9	134	22	149	21	0
710	OH Wesleyan U.	335	203	0	0	0	132	0
711	Eckerd C.	327	275	0	39	5	0	8
712	Vanguard U. Southern CA	319 i	269 i	0 i	0 i	15 i	35 i	0 i
713	St. Joseph's C. (Standish, ME)	317	316	0	0	1	0	0
714	Gustavus Adolphus C.	310	97	1	0	116	96	0
715	OH Northern U.	308	180	1	10	32	85	0
716	U. MT Western, The	301	253	0	0	0	48	0
717	Mayville State U.	275	212	63	0	0	0	0
718	PA State U. Great Valley School of Graduate Professional Studies	275	0	0	141	0	134	0
719	U. SC Upstate	261	15	1	0	13	232	0
720	Fairleigh Dickinson U.	254	210	22	17	5	0	0
721	Farmingdale State C.	253	228	0	0	0	25	0
722	SUNY New Paltz	251	182	3	16	22	28	0
723	U. MN Rochester	248	3	0	0	0	245	0
724	U. Scranton	240	19	42	12	0	167	0
725	SUNY C. of A&T Morrisville	233	11	184	0	0	38	0
726	MA C. of Pharmacy and Health Sciences	232	38	0	194	0	0	0
727	CUNY New York City C. of Technology	231	81	0	13	9	128	0
728	Canisius C.	221	154	5	1	61	0	0
729	Jarvis Christian C.	216	184	0	0	32	0	0
730	Dowling C.	200	200	0	0	0	0	0
731	Eastern OR U.	200	116	20	0	6	58	0
732	North GA C. & State U.	197	176	0	0	21	0	0

TABLE 15. Higher education R&D expenditures, ranked by all R&D expenditures, by source of funds: FY 2010
(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
733	Southeastern OK State U.	192	171	15	0	3	3	0
734	NJ City U.	188	132	0	0	0	56	0
735	Benedictine U.	186	42	0	0	20	124	0
736	Fitchburg State C.	174	174	0	0	0	0	0
737	Carlos Albizu U. (San Juan, PR)	165	0	0	0	0	165	0
738	OK State U. Tulsa	158	0	119	0	0	39	0
739	Sarah Lawrence C.	158	60	0	0	98	0	0
740	PA State U. Berks	155	155	0	0	0	0	0
741	PA State U. Worthington-Scranton	152	0	149	0	0	3	0

i = imputed. NA = not available; data were not provided by institution.

^a The Johns Hopkins University includes Applied Physics Laboratory, with \$1,079,931 in total R&D expenditures in FY 2010.

NOTES: Source-specific rankings available on request. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multicampus universities; some are part of state university systems. For complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table C-2.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2010.

TABLE 19. Higher education R&D expenditures at historically black colleges and universities, ranked by all R&D expenditures, by source of funds:
FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
	All HBCUs	579,596	475,051	34,194	7,710	5,978	50,430	6,233
1	FL A&M U.	53,474	45,856	5,576	2,042	NA	0	NA
2	Jackson State U.	44,862	39,457	0	0	1,155	4,250	0
3	Howard U.	40,080	33,017	142	938	1,310	4,673	0
4	NC Agricultural and Technical State U.	35,297	23,883	105	62	53	11,190	4
5	U. of the VI	32,350	28,369	1,887	0	0	0	2,094
6	AL A&M U.	30,497	22,154	1,601	330	180	4,988	1,244
7	Morehouse School of Medicine	30,385 i	26,559 i	602 i	1,033 i	33 i	2,158 i	0 i
8	Meharry Medical C.	27,001	24,302	0	0	1,545	1,154	0
9	AL State U.	16,340	13,340	0	0	0	3,000	0
10	Tuskegee U.	15,581	12,309	1,620	0	0	245	1,407
11	DE State U.	15,200	10,154	428	41	36	4,541	0
12	Hampton U.	14,455	14,455	0	0	0	0	NA
13	Morgan State U.	12,804	10,039	1,328	1,253	184	0	0
14	Prairie View A&M U.	12,565	8,623	2,986	126	27	799	4
15	TN State U.	12,432	7,414	793	592	33	3,600	0
16	Fayetteville State U.	11,865	10,844	676	1	344	0	0
17	Alcorn State U.	10,280	9,256	0	50	0	974	0
18	U. MD Eastern Shore	8,692	8,583	87	0	2	0	20
19	Clark Atlanta U.	8,515	7,229	18	134	68	1,066	0
20	Lincoln U. (Jefferson City, MO)	8,475	5,984	2,491	0	0	0	0
21	Dillard U.	8,425	7,096	1,329	0	0	0	0
22	U. AR Pine Bluff	8,343	3,947	279	0	110	4,007	0
23	Xavier U. LA	8,029	5,669	1,465	0	284	611	0
24	Morehouse C.	7,857	7,857	0	0	0	0	NA
25	Fisk U.	7,700	7,686	0	0	0	14	0
26	VA State U.	7,466	5,552	72	5	71	1,761	5
27	SC State U.	7,167	6,334	308	346	179	0	NA
28	TX Southern U.	7,003	5,240	1,551	0	212	0	NA
29	NC Central U.	6,870	6,870	NA	NA	NA	0	NA
30	Southern U. Baton Rouge	6,865	5,920	NA	0	0	0	945
31	Norfolk State U.	5,944	5,413	21	NA	NA	0	510
32	Elizabeth City State U.	5,576	5,552	14	0	10	0	0
33	Ft. Valley State U.	5,310	4,586	0	0	0	724	0
34	U. DC	5,012	1,946	3,066	0	0	0	0
35	KY State U.	4,912	3,501	1,341	0	58	12	0
36	Langston U.	4,492	3,313	1,179	0	0	0	0
37	WV State U.	3,770	2,759	1,011	0	0	0	0
38	Shaw U.	3,600 i	3,159 i	169 i	0 i	0 i	272 i	0 i
39	Claffin U.	3,252	3,226	15	11	0	0	0
40	Central State U.	3,233	2,544	227	462	0	0	0
41	Spelman C.	3,181	2,740	0	280	0	161	0
42	Tougaloo C.	2,978	2,978	0	0	0	0	0
43	Savannah State U.	1,874	1,774	86	0	14	0	0
44	Benedict C.	1,533	1,473	60	0	0	0	0
45	Lincoln U. of the Commonwealth of PA	1,425	1,114	307	4	0	0	0
46	MS Valley State U.	1,029	993	NA	NA	NA	36	NA
47	Grambling State U.	993	993	0	0	0	0	0
48	Wilberforce U.	760	737	0	0	23	0	0
49	Albany State U.	740	396	344	0	0	0	0

TABLE 19. Higher education R&D expenditures at historically black colleges and universities, ranked by all R&D expenditures, by source of funds:
FY 2010

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
50	Cheyney U. PA	725	255	470	0	0	0	0
51	Le Moyne-Owen C.	708	610	98	0	0	0	0
52	Wiley C.	575	362	198	0	15	0	0
53	U. VA's C. Wise, The	481	76	244	0	0	161	0
54	Southern U. New Orleans	402	369	0	0	0	33	0
55	Jarvis Christian C.	216	184	0	0	32	0	0

i = imputed. NA = not available; data were not provided by institution.

HBCUs = historically black colleges and universities.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2010.

TABLE 20. Higher education R&D expenditures at high-Hispanic-enrollment institutions, ranked by all R&D expenditures, by source of funds: FY 2010
(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
	All HHE institutions	1,203,999	744,926	106,316	45,634	57,417	238,023	11,683
1	U. NM	211,771	148,216	5,601	3,776	3,462	49,850	866
2	U. TX Health Science Ctr. San Antonio	207,115	121,723	6,949	15,499	20,181	42,763	0
3	NM State U.	157,872	98,399	17,937	7,745	267	25,110	8,414
4	FL International U.	110,271	62,580	6,617	1,330	6,081	33,449	214
5	U. TX El Paso	68,870	34,617	13,726	1,017	8,459	11,051	0
6	U. TX San Antonio	56,279	28,717	12,431	453	4,361	10,317	0
7	CUNY The City C.	46,699	32,900	4,751	6,126	NA	2,922	NA
8	U. PR Medical Sciences Campus	39,134	29,813	1,045	2,346	NA	5,930	0
9	U. PR Rio Piedras	30,515	21,717	123	16	20	8,373	266
10	CA State U., Northridge	29,469	17,213	6,685	119	331	5,111	10
11	U. PR Mayaguez	26,475	12,735	726	1,555	2,615	8,811	33
12	Charles R. Drew U. of Medicine and Science	22,152	20,430	NA	NA	NA	1,722	NA
13	CA State U., Fullerton	21,776	13,651	2,636	333	1,091	4,065	0
14	U. CA, Merced	21,591	9,392	6,589	181	487	3,819	1,123
15	TX A&M U.-Kingsville	17,378	7,088	4,548	487	2,504	2,751	0
16	TX A&M U.-Corpus Christi	17,266	7,869	3,885	119	2,703	2,634	56
17	CA State U., Long Beach	15,494	12,731	1,358	1,048	341	16	0
18	Nova Southeastern U.	10,116	5,718	666	891	365	2,476	0
19	CA State U., Fresno	8,698	3,424	2,743	208	381	1,942	0
20	U. TX Pan American	8,693	5,544	1,725	376	574	474	0
21	CA State U., Los Angeles	7,714	7,234	193	0	160	127	0
22	Universidad Central del Caribe	7,122	6,504	31	0	0	587	0
23	U. TX Brownsville	6,886	5,640	737	0	40	469	0
24	Universidad del Turabo	6,620	691	0	0	0	5,929	0
25	CA State Polytechnic U., Pomona	6,493	2,563	844	487	186	2,413	0
26	CUNY John Jay C. of Criminal Justice	5,916	3,418	52	0	1,790	656	0
27	CA State U., Monterey Bay	5,305	3,167	1,551	0	146	441	0
28	CUNY Herbert H. Lehman C.	3,579 i	2,750 i	5 i	558 i	0 i	266 i	0 i
29	Sul Ross State U.	3,039	1,595	537	41	362	504	0
30	CA State U., Dominguez Hills	2,743	2,658	64	19	2	0	0
31	TX A&M International U.	2,428	1,623	164	0	368	247	26
32	U. PR Humacao	2,161 i	2,144 i	0 i	0 i	0 i	17 i	0 i
33	CA State U., Bakersfield	2,083	637	936	158	93	259	0
34	Universidad Metropolitana	1,888	1,282	0	0	0	606	0
35	CA State U., San Bernardino	1,851	1,412	151	154	13	89	32
36	NM Highlands U.	1,529	970	59	500	0	0	0
37	U. TX of the Permian Basin	1,417	677	1	0	0	96	643
38	Universidad del Este	1,372	1,139	0	0	0	233	0
39	U. Houston-Downtown	1,013	908	6	79	0	20	0
40	U. PR Cayey	927	710	0	0	0	217	0
41	Barry U.	897	897	0	0	0	0	0
42	Northeastern IL U.	711	448	0	0	19	244	0
43	Mt. St. Mary's C. (Los Angeles, CA)	647	647	0	0	0	0	0
44	St. Mary's U. (San Antonio, TX)	495	20	0	0	0	475	0
45	U. VA's C. Wise, The	481	76	244	0	0	161	0

TABLE 20. Higher education R&D expenditures at high-Hispanic-enrollment institutions, ranked by all R&D expenditures, by source of funds: FY 2010
(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Business	Nonprofit organizations	Institution funds	All other sources
46	Mercy C.	464	426	0	0	6	32	0
47	CUNY New York City C. of Technology	231	81	0	13	9	128	0
48	NJ City U.	188	132	0	0	0	56	0
49	Carlos Albizu U. (San Juan, PR)	165	0	0	0	0	165	0

i = imputed. NA = not available; data were not provided by institution.

HHE = high Hispanic enrollment.

NOTE: HHE institutions are those whose undergraduate, full-time equivalent student enrollment is at least 25% Hispanic, according to fall 2008 data in Integrated Postsecondary Education Data System, directed by National Center for Education Statistics.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2010.